COURSES OF INSTRUCTION

This chapter represents a compendium of all the courses of instruction offered at the University of California San Francisco. The courses are arranged in numerical order by subject. The information included in each course has been arranged according to the following rules.

Course Description — Course information is arranged in two paragraphs with periods separating items. The first paragraphs include (1) course number; (2) course title; (3) units in parenthesis; (4) session offered; (5) prerequisite; (6) lecture, laboratory, clinic, etc.; and (7) instructor in charge. The second paragraph describes the course content.

Abbreviations — These abbreviations are used where applicable: Su = summer quarter; SS = summer session; F = fall quarter; W = winter quarter; Sp = spring quarter; Yr = year; A = course taught in the fall quarter; B = course taught in the winter quarter, and C = course taught in the spring quarter. For courses noted within the 100 series, when the units are followed by a (5), the courses so designated are open to graduate academic students. The hospitals are designated by the following initials:

A, Alta Bates Hospital, Berkeley.
C, Children’s Hospital and Adult Medical Center, San Francisco.
CC, Crippled Children’s Hospital, Phoenix.
CCCP, Center for Training in Community Psychiatry, Berkeley.
CHMC, Children’s Hospital Medical Center of Northern California, Oakland.
CHS, Community Hospital of Sonoma County, Santa Rosa.
CM, Cowell Memorial Hospital, Berkeley.
F, Franklin Hospital and Medical Center, San Francisco.
FR, French Hospital, San Francisco.
H, Highland General Hospital, Oakland.
HCCH, Harkness Community Hospital and Medical Center, San Francisco.
K, Kaiser Foundation Hospital, San Francisco.
KP, Kaiser Permanente Medical Center, Oakland.
KSFH, Kaiser Foundation Hospital, South San Francisco.
L, Letterman General Hospital, San Francisco.
LPNT, Langley Porter Neuropsychiatric Institute, San Francisco.
MC, Maricopa County Hospital, Phoenix.
MG, Marin General Hospital, Ross.
MZ, Mt. Zion Hospital and Medical Center, San Francisco.
OG, O’Connor Hospital, San Jose.
PH, Peninsular Hospital, Burlingame.
PWH, United States Public Health Service Hospital, San Francisco.
PML, Pacific Medical Center, San Francisco.
Q, Queen’s Hospital, Honolulu, Hawaii.
RLA, Rancho Los Amigos Hospital, Downey.
SGC, Santa Clara Valley Medical Center, San Jose.
SFGS, San Francisco General Hospital, San Francisco.
SJG, San Joaquin General Hospital, Stockton.
SMH, Shriners Hospital for Crippled Children, Honolulu, Hawaii.
SM, Samuel Merritt College, Oakland.
SFMH, Shriners Hospital for Crippled Children, San Francisco.
STJ, St. Joseph’s Hospital, San Francisco.
SFL, St. Luke’s Hospital, San Francisco.
STM, St. Mary’s Hospital, San Francisco.
T, Tripler Army Medical Center, Honolulu, Hawaii.
UC, University of California Hospitals and Clinics, San Francisco.
VA, Veterans Administration Hospital, San Francisco.
VAP, Veterans Administration Hospital, Phoenix.
VAC, Valley Medical Center, Fresno.

Course Number — All courses are numbered according to the following system: 100 series = upper division professional course, 200 and 300 series = graduate academic course, and 400 series = postdoctoral professional course. The meanings of the second (even) and first (units) digits vary among the schools. A detailed explanation of course numbering is available from the Office of the Dean of each School.

AMBULATORY AND COMMUNITY MEDICINE

101. Fundamentals of Epidemiology. (3)

W, Prerequisite: Biochemistry 102, Microbiology 106, or their equivalent.

Lectures and seminars dealing with distribution and determinants of disease in population. Emphasis is placed on uses of epidemiologic concepts and techniques in clinical, investigative, and community medicine.

110. Required Clinical Clerkship in Ambulatory and Community Medicine. (3) per week

Su, F, W, Sp. Prerequisite: Completion of 24 weeks of clinical clerkship, including Pediatrics 110 and either Medicine 110 or Surgery 110 and 111. Complete curriculum integrated ambulatory clerkship experience of wide scope offered in a diversity of environments.
patient settings, including Adult Comprehensive, Family Care, Pediatric, and Dermatology Clinic. Other courses, including the Care Service, Community Health programs, with additional assignments and seminars in radiology, physiology, and emergency care.

130. Introduction to Patient Care. (2) W, Sp. Prerequisite: Psychiatry 130. Crede
An interdepartmental course including the sequence of medical events in patient care, the nature of physician-patient interaction, the basic methods of identifying and solving problems in patient care. Lectures, small group discussion, and clinical section work.

140.01. Clinical Community Health Program. (1/2 per week) Su, F, W, Sp. Prerequisite: Determined by students' clinical experiences and elective for which they are applying.
Crede and Staff
Elective experience in community health projects of varied nature for two weeks to three months. Students may study and participate in unique health care programs, e.g., Indian Health Service, Diabetic Summer Camp, Planned Parenthood program, Family Practice Preceptorships.

140.02. Family Practice Clerkship at S. (1/2 per week) Su, F, W, Sp. Prerequisite: Consent of the instructor. Crede, Howard and Staff
Field work to explore one area or more in social medicine or community health. Faculty from Schools of Medicine, Public Health, Nursing, Dentistry, and Social Welfare may participate where needed.

140.03. Clinical Aspects of Community Medicine. (1-5) F, W, Sp. Prerequisite: Consent of the instructor. Barbaceta, Howard
Students are assigned to community health agencies where they will work with patients. Seminars may be used to clarify issues in community health. Faculty from Schools of Medicine, Public Health, Nursing, Dentistry, and Social Welfare may participate where needed.

140.04. Clinical Occupational Medicine. (1/2 per week) F, W, Sp. Prerequisite: Consent of the instructor. Hine
Clinical demonstrations and case presentations representative of occupational and environmental disease.

140.05. Pregnancy Counselling. (1) F, W, Sp. Vandervoort
Students complete a course in instruction in pregnancy counselling at San Francisco Planned Parenthood and participate as pregnancy counsellors at Planned Parenthood (or satellite) under supervision of an obstetrician faculty and Planned Parenthood staff and attend periodic lecture-demonstrations.

140.06. Centro Latino Elective. (1-2) F, W, Sp. Prerequisite: Consent of the instructor. Sanchez, Pascoe
Students participate in a program serving the needs of the Latino population at all age levels, from prekindergarten to elderly. Health care, free breakfast, and lunch programs conducted at the Centro Latino, 1250 Potrero.

140.07. Latino School Elective. (3) F, W, Sp. Prerequisite: Consent of the instructor.

140.08. Introduction to the Economics of Human Services. (1) Sp. F. Ingbar
Description of factors affecting supply of resources and demand for services. Analysis of organizational, administrative, and financial differences among programs. Evaluation of systematic approach to economic concepts as cost, price, utility, productivity, economy, efficiency, and effectiveness in meeting patient needs.

140.09. The Family: Health, Illness, and Care. (3) F, W, B. Prerequisite: Economics 140. Crede
Seminars meet for two consecutive semesters for students teaching family physicians. Through seminars, reading, and case conferences with family physicians, students will learn basic medical and behavioral approaches to family medicine and care.

140.10. Introduction to Family Therapy. (1) Sp. Raon
This course provides an introduction for students expecting to take more advanced training in family therapy. Students will not see families themselves, but will participate in the supervision hours of family therapy trainees as an observer family therapy experience.

140.11. Aspects of Social Medicine in Community Health Agencies. (1-5) F, W, Sp. Prerequisite: Consent of the instructor. Crede, Howard
Seminars may explore one area or more in social medicine or community health. Faculty from Schools of Medicine, Public Health, Nursing, Dentistry, and Social Welfare may participate where needed.

140.12. Rehabilitation Medicine. (1-5) F, W, Sp. Prerequisite: Consent of the instructor. Edmondson, Geiger
According to the student's interest, arranged to study rehabilitation services and facilities related to the student's interest.

140.13. Introduction to Social and Preventive Medicine. (2) Wrege
Lectures and seminars introduce entering students to social, political, economic, and environmental factors influencing community health and provision of care. Topics include: clinical preventive medicine, community health planning, and formulation of social health policy. Patient interviews may be arranged.

140.14. Health Care For Blacks: A Candid Look at Patients and Practitioners. (2) W. Howard, Cobbs
Consider etiology and management of diseases having greater prevalence and mortality among blacks, e.g., hypertension, stroke, sickle-cell anemia, and cervical cancer. Stress problems of patients in gaining access to care and appropriate treatment, discusses the situation of black health professionals.

181.02. Introduction to the Economics of Human Services. Seminar. (1) Sp. F. Prerequisite: Concurrent registration in Community Medicine 181.01 or consent of the instructor. Seminar: 1 hour. Ingbar
Seminar discussion of factors affecting supply of resources and demand for services. Analysis of organizational, administrative, financial, and payment differences among programs. Evaluation of systematic approach to economic concepts as cost, price, utility, productivity, economy, efficiency, and effectiveness in meeting patient needs.

181.03. Economics and the Organization and Administration of Health and Welfare Programs. (2) F, W, Sp. Prerequisite: Community Medicine 181.01 or consent of the instructor. Seminar: 2 hours. Ingbar
Discussion of case materials concerning programs which provide care, purchase services, and plan delivery systems. Emphasizes development and application of cost-benefit, cost-effectiveness, and other economic concepts for improving managerial performance and understanding governmental policies which affect health status of populations.

182.02. Public Health Programs. (2) F, W, Sp. Prerequisite: Third or fourth-year standing for Pharmacy students (required course); consent of the instructor for other students. Barbaceta
Survey of major health problems throughout the world, and programs and agencies concerned with their control. Relationships of pharmacy to emergency medical services, communicable diseases, nutrition, sanitation, occupational health, maternal and child hygiene, mental health, public health administration, etc.

A lecture series with guest speakers. The purpose of the course is to develop awareness of West Coast Asian community health problems and to assist in the development of viable alternatives to these existing problems.

183.02. Health Care For Blacks: A Candid Look at Patients and Practitioners. (2) W. Howard, Cobbs
Consider etiology and management of diseases having greater prevalence and mortality among blacks, e.g., hypertension, stroke, sickle-cell anemia, and cervical cancer. Stress problems of patients in gaining access to care and appropriate treatment, discusses the situation of black health professionals.
184. Contemporary Spanish Speaking Cultures. (5) F. W. Prerequisite: Consent of the instructor.
Sanchet. Investigation of selected theories of migration, urbanization, assimilation, and conflict with emphasis on diverse Spanish-speaking populations in urban areas: relationships between this group and formal institutions, i.e., medical services.

Lectures and discussion seminars will provide an ecological framework of political, social, and economic influence in the medical care system. Topics will include manpower, hospitals, ambulatory care, information and communication, regulation and controls, costs, government programs, and health services research.

185.01. Medical Care Evaluation. (2) W. Prerequisite: Consent of the instructor. Lecture: 2 hours.
Barbaccia, Adamson
Orients instruction in methods of appraising quality and efficiency of medical care using medical audit and utilization review. Initial emphasis will be learning problem-oriented medical recording to facilitate patient management and implementation of these review techniques.

186. Politics of Health. (1-5) F. P. Lee
Lecture series presents an overview of the health care industry, its economic, political, and sociological aspects relating to development and implementation of health policies at the federal, state, and local levels, particularly concerning major issues of national health insurance.

187. Politics of Health. (1-5) W. P. Lee
Lecture series presents an analysis of the impact of national health insurance policy alternatives on various sectors of society: health professions, consumers, medical schools, health care facilities, pharmaceutical manufacturers, and governmental entities at the federal, state, and local levels.

188. Politics of Health. (1-5) Sp. P. Lee
This lecture series focuses on institutional and personal values influencing formation of specific aspects of health policy. Topics include physician specialization, research and development, genetic screening, traditional medicine, human experimentation, mental health, and care of the aging.

189. Social and Research Problems in Sexual Identity. (2) Sp. Seminar: 2 hours. Prerequisite: Consent of the instructor.
An examination of the research literature in the area of sexual identity. Basic sexual concepts, gender identity and role, clinical problems (including transvestism and transsexualism), sexual object-choice, homosexuality (biological, social, and psychological aspects), issues of etiology, treatment, societal response.

190. Family Counseling and Psychotherapy. (3) F, W, Sp. Prerequisite: Consent of the instructor. Seminar: 3 hours. Ransom
Students will observe family therapy sessions, both live and on videotape. They will also meet with families, under the supervision of Dr. Ransom and other faculty. Appropriate readings will be assigned and discussed in seminar.

190. Supervised Study. (1-5) F, W, Sp, Su. Prerequisite: Consent of the instructor.
Crede and Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the division.

190. Family Practice: Seminars in Medical Literature. (1-5) F, W, Sp, Su. Menachof
Monthly seminars are held on recent literature in the major clinical disciplines and subspecialties as pertinent to the training and practice of the family physician.

Radiologists on attending staff present systematic review of techniques of interpretation of X-rays as needed by the family physician, covering recent findings in selected medical, surgical, pediatric, obstetric, orthopedic, and ophthalmic problems. Normal findings and their variants are presented.

192. Family Practice: Clinicalopathological Conference. (2) F, W, Sp, Su. Leissring
Residents present clinical data for selected patients in clinicalopathological conferences as part of regular program monthly hospital staff meetings. Staff pathologists provide correlation of clinical manifestations of disease with clinical laboratory, histologic, and autopsy findings.

193. Family Practice: Staff Conferences. (2) F, W, Sp, Su. Menachof
Family Practice residents and members of attending staff prepare and present case histories of patients as well as clinical reviews of selected clinical problems in internal medicine, pediatrics, family practice, surgery, obstetrics and ophthalmology.

Under the supervision of attending internists and cardiologists, residents in family practice interpret all electrocardiograms taken at Community Hospital of Sonoma County. First-year residents.

195. Family Practice: Visiting Professor Program. (2) F, W, Sp, Su. Neal
Weekly lectures, rounds, informal seminars, and case presentations are conducted by visiting professors from the University of California San Francisco representing diverse clinical disciplines and basic sciences.

One-year postinternship in medicine or pediatrics.
Crede and Staff
Clinical training is predominantly in an ambulatory setting, but limited hospital assignments may be provided. Residents are encouraged to participate in community health activities under the supervision of the faculty and are expected to participate in undergraduate medical student instruction.

Neal
Residents will work as members of group practice and leaders of health team. Their training as family doctors will include appropriate internal medicine, pediatrics, obstetrics-gynecology, surgery, community health resources, preventive medicine, and subspecialties.

Residents develop interviewing and management techniques for patients with a variety of commonly occurring problems. Psychiatric supervision is facilitated by a one-way mirror, and a conference between resident and psychiatrist follows each session.

ANATOMY
100. Systemic and Regional Anatomy. (6) F. Prerequisites: Embryology and concurrent enrollment in Anatomy 101.
Alding, Evans, Monie and Staff
The gross structure of the human body is studied by means of dissection, demonstration, X-ray, surface, and cross-sectional anatomy with special reference to the functional aspects of the structures examined.

101. Human Development and Genetics. (4) F. Prerequisite: School of Medicine entrance requirements and consent of the instructor.
Monie, C. Epstein and Staff
Aspects of normal and abnormal physical and mental development, considered in the context of their clinical relevance discussed. Factors involved in genetic counseling and prenatal diagnosis of congenital defects are also presented.

102. Histology. (4) W. Prerequisite: Biochemistry 100-A.
Wissig and Staff
Course deals with microscopic structure of tissues and organs. Structure is correlated with function. Neural, endocrine and reproductive systems are not covered.

103. Nervous System: Form and Function. (5) W. Prerequisite: Anatomy 100 and 101 or consent of the instructor.

A study of the microscopic structure of the tissues and organs of the human body by means of lectures, demonstrations, and microscope slides. Functional aspects of the structures are stressed.

Evans and Staff
A study of the macroscopic structure of the human body by means of lectures and demonstrations. Functional aspects of the structures are stressed.

Gross anatomy of the trunk, upper extremity, and head and neck are studied by laboratory dissection and demonstration. The course includes an introduction to neuroanatomy. Emphasis is placed on the functions of the structures and systems examined.

118. General Histology. (3) F. Lecture: 2 hours. Laboratory: 3 hours.
The microscopic structure of tissues and organs of the body are studied with their histophysiologic considerations.

119. Neuroanatomy. (3) Sp. Lecture: 2 hours. Laboratory: 3 hours. Lawry and Staff
The structure and function of the nervous system studied in lectures and laboratory.

136. Survey of General and Head and Neck Anatomy. (6) F. Lecture: 3 hours. Laboratory: 9 hours. Coleman
The systems of the body and head and neck are studied by lectures and laboratory demonstrations. The structures of the head and neck, including the central nervous system, receive major consideration. Emphasis is placed upon function and anatomic relationships.
170. Advanced Head and Neck Anatomy. (1–3 credits) Prerequisite: General histology, gross anatomy of the head and neck, and oral histology. Lecture: 1 hour. Laboratory: 0–12 hours.

This course is designed for postprofessional certification students enrolled in the clinical specialty training programs in the School of Dentistry. Seminar type of presentation and demonstration of head and neck anatomy are correlated with their application to clinical dentistry.

171.01. Problem Areas in Clinical Anatomy. (3) F, W, Sp. Prerequisite: Prior or concurrent enrollment in Anatomy 100. Linder

Discussions of important areas in clinical anatomy, hernia, thyroid, pericardium, peritoneal cavity, etc. Correlated with Anatomy 100.

172.02. Survey of Congenital Defects. (2) W. Prerequisite: Gross anatomy course and consent of the instructor. Monie

This elective course is designed to provide physical therapists with information on the more common human congenital defects. Environmental and genetic factors that produce malformations are considered and possible mechanisms discussed.


Lectures and demonstrations on applied anatomy and embryology.

175.05. Congenital Abnormalities. (1–3 credits) W. Prerequisite: Anatomy 100 or equivalent and consent of the instructor. Monie

Individual or group projects involving library and laboratory research on the genetics of congenital abnormalities in man and other mammals. Weekly seminar. Enrollment limited.

176.06. Experimental Endocrinology. (2) Sp. To be given in alternate years. Lottrock, Papkoff

Basic study of animal hormones, their structures, functions, and interrelationships. Concepts regarding hormonal actions are derived from chemical (structure function) and biological (in vivo, in vitro) studies. Mechanisms are discussed wherever possible.

178.08. Regional and Topographical Anat- omies. (1) Su, F, W, Sp. Armstrong, Monie

Living clinical anatomy is stressed. The diaphragm, complete review of the neck, and abdominal contents. Clinical congenital anomalies are discussed in detail regarding their relationship to clinical medicine.

179.09. Review of Human Embryology. (1) SS. Armstrong, Monie

An elective course of about fifteen one-hour lecture-demonstrations for those wishing to review or augment their knowledge of human embryology. It cannot be substituted for Anatomy 101, Human Development and Genetics. Enrollment limited.

179.10. Neuroanatomy. Correlation. (2) W. Garonette

Individual patients will be presented, and the neuroanatomical significance of their clinical findings discussed.


This course offers training in electron microscopic techniques applicable to basic research and clinical problems.


This course offers advanced training in electron microscopic technique applicable to basic research and clinical problems.


Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

190. Laboratory Project in Anatomy. (1–5) F, W, Sp. Ralston and Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

200. Topics in Reproductive Biology. (2) Sp. Lecture: 2 hours. Prerequisite: Consent of the instructor. Monie

A series of lectures and discussions on recent advances in the biology of reproduction. To be offered in alternate years.

201. Radiation Effects on Genes and Chromosomes. (2) W. Prerequisite: Consent of the instructor. Woll

Concepts and mathematics of target theory relating to damage of genetic apparatus. Biophysical and biochemical studies on interaction of intrinsic and extrinsic mutagens that give insight into the structure of chromosome and the interaction of radiation with biological material.

211. Biological Aspects of Human Develop- ment. (1) F. Prerequisite: Consent of the instructor. Enrollment limited. Lecture: 4 hours.

Monie and Staff

Aspects of normal-agonal human physical and mental development are considered and their clinical significance indicated. Relevant features of experimental mammalian teratogenesis are also discussed.


Members will demonstrate the application of advanced laboratory procedures to the analysis of research projects.

215. Cell Structure and Function. (2 or 4) Sp. Prerequisite: An elementary knowledge of cell ultrastructure and biochemistry and permission of the instructor to enroll for 4 units.

Long and Staff

An advanced presentation of the relationship between structural organization and the physiological activities of cells.

216. Developmental Biology. (1–4) F, W, Sp. Prerequisite: Consent of the instructor. Claus

Laboratory or library research in mammalian embryology or directed reading on current developments in gametogenesis, fertilization, cleavage, implantation, organogenesis, or molecular differentiation.


Coleman

Critical analysis of selected topics and methods in head and neck anatomy. The topics are correlated with appropriate laboratory experience and are presented by students, staff, and guests.

220. Seminar. (0) F, W, Sp. Staff

Students, staff, or guests present selected topics concerned with current research in anatomy for criticism and discussion.

230. Comparative Pathology and Foetal Endocrinology. (2) W. Prerequisite: Consent of the instructor. Contreras

A series of discussions covering the comparative anatomical and physiological aspects of placentaion and its relation to the development and physiology of the foetal endocrine glands.

231. Molecular and Cellular Analysis of Development. (3) Prerequisite: Consent of the instructor. Lecture: 3 hours. Laboratory: 0.

Calasaro

Molecular and cellular events relating to differentiation and development. A variety of developmental phenomena will be surveyed and related to genetic and epigenetic control mechanisms.


288. Thesis. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the chairman of the department. Staff

For students engaged in writing the thesis for the masters degree.

299. Dissertation. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Staff

For students engaged in writing the dissertation for the Ph.D. degree.

300. Practicum in Teaching. (1–4) F, W, Sp. Prerequisite: Consent of the instructor. Staff

Training in teaching in a course offered by the Department of Anatomy. The seminar in course of instruction in class. Includes laboratory teaching, presentation of lecture materials, experience in setting up and correcting examinations and participation in course critiques.

ANESTHESIA

110. Clinical Clerkship in Anesthesia. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 130, Psychiatry 130, Ambulatory and Community Medicine 130, Medicine 131A–B, Physiology 100, and Pharmacology 100A–B.

Hamilton

Introduction and experience in operating room anesthetics including preoperative and postoperative evaluation and care. Cardiopulmonary resuscitation, care of the unconscious patient, and treatment of pain problems will be conducted at UF, SF, and F&F. Teaching conferences of department included.

140.01. Clinical Anesthesia. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A–B, Pharmacology 100A–B, Physiology 100, and Anesthesiology 110.

Hamilton and Staff

Course consists of instruction and experience in cardiopulmonary resuscitation, care of the unconscious patient, and treatment of pain problems. Will be conducted at UF, SF, and F&F; and attendance at the teaching conferences of the department.

140.02. Clinical Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Limited to fourth-year students with consent of the instructor.

Singlet

Familiarizes students with techniques of intensive care, emphasis clinical respiratory and circulatory physiology and applied to support patients with cardiopulmonary insufficiency. Seminar and discussion groups, active and passive participation in techniques utilized in diagnosis, care and management of the critically ill.

140.1. Intensive Care Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Limited to fourth-year students with consent of the instructor.

Hamilton and Staff

The systemic effects of the various muscle relaxants, sedatives, and stimulants and the administration of general anesthetic agents.

400. Anesthesia Staff Conference. (2-2) F, W, Sp. Stevens, Miller

Course includes didactic lectures in scientific basis to the specialty of anesthesia, as well as film reviews, clinical discussions, and seminars on current medical literature in anesthesia.

450. Anesthesia Clinical Work. (1.5) per week. So, F, W, Sp. First-year residents, also during either second or third year. U/C Hamilton

Residents are responsible for anesthetic care and management of patients in the operating rooms and outpatient departments, under immediate supervision of the staff, preoperative and postoperative evaluation of patients, and anesthesia techniques and resuscitation are covered.

460. Anesthesia Special Assignment. (1.5 per week) Su, F, W, Sp. Residents during either second or third year, U/C Egger

Assignments include instruction in anesthesia for children, problems related to open heart surgery, radiology, and opportunity for research in related fields.

ANIMAL SCIENCE

162. Principles of Laboratory Animal Sciences. (5) W. Lecture: 1 hour, Laboratory: 4 hours. Spinelli

Introduction to the selection, anatomical, and physiological peculiarities, and the preparative and postoperative care of animals. Laboratory experiments in anesthesia, surgical exercises, drug administration, perfusion techniques, and individualized experiments.

ANTHROPOLOGY

220. Culture and Personality. (2-5) F. Prerequisite: Consent of the instructor. Lecture: 2 hours (5 hours independent study).

Kiefer, Newman

Explores the relationship between (a) culturally conditioned ways of perceiving, thinking, and communicating and (b) individual behavior and personality development.

231. Ethnic Psychiatry. (2-5) W. Prerequisite: Consent of the instructor. Lecture: 2 hours for 2 units (3 hours independent study per week for 5 units). Clark, Hartog

Principles of healing systems in the treatment of mental disorder including folk healing, crosscultural comparisons, research methods, and implications for community psychiatry. Students will study local examples of folk healers or folk-healing institutions.

240. Urban Anthropology. (2-5) W. Prerequisite: Consent of the instructor. Lecture: 2 hours (5 hours independent study for 3 units). Abhun, Kiefer

The development and characteristics of urban industrial societies, and the culture of modern cities. Evaluation of theories and methods for understanding urban behavior. Ethnic and racial pluralism in modern cities. The relevance of anthropological concepts for urban planning.

241. Social Deviance. (3) F. Prerequisite: Consent of the instructor. Lecture: 3 hours.

A study of social deviant behavior and the societal reaction to the deviant.

242A-B. Anthropological Considerations in the Community Mental Health Field. (2-3) F, W, Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours, Independent Study: 3 hours per week for 5 units. Abhun

A study of the principles and practice in the community mental health field. Emphasis will be on the significance of social factors in the delivery of mental health services.

249. Comparative Medical Systems. (2-3) F, W, Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours (5 hours per week independent study for 5 units). Clark, Dunn, Newman

Comparative examination of traditional and contemporary systems of health care delivery with special attention to theories of disease including notions regarding etiology, prognosis, treatment and treatment settings, and the therapeutic encounter. Seminar includes some experience in field and clinical observation.

248. Group Study. (1-5) F, W, Sp. Prerequisite: Consent of the instructor, U/C Staff Groups of two or more collaborate in special problems in anthropology under the direction of a faculty student may select those related to their long-term interest and future research programs.

249. Directed Reading. (1-5) F, W, Sp. Prerequisite: Consent of the instructor. Staff

All independent study.

255A-B. Seminar in Medical Anthropology. (2-4) F, W, Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Independent Study: 3 or 6 hours. Clark, Newman

Core seminar in medical anthropology offered in Berkeley in fall and spring, and San Francisco in winter. A review of the principal fields of medical anthropology with emphasis on current research and methods.

260. Behavioral Epidemiology. (2-3) Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours (5 hours per week independent study for 5 units). Dunn

Introduction to the study of human behavioral factors in epidemiology and medical sociology including analysis of health behavior and training in the use of health services. The full range of human disease and disorder is considered.

265. Genetic Anthropology and Epidemiology. (2-3) F, W, Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours, Laboratory: 5 hours. Laboratory demonstrations will be included when possible.

Petrasik, Schanfield

Lecture course dealing with epidemiological and anthropological aspects of selected genetic polymorphisms and their potential applications to the investigation of disease causation. Topics include blood group systems, hemoglobin type, tissue antigen systems, serum and red cell enzymes, and selected physical traits.

270. Research in Population. (2-3) Sp. Lecture: 2 hours (3 hours per week independent study for 5 units).

Newman

A survey of research methodologies and techniques in the study of births, deaths, and migrations and social and cultural factors in population change.

275. Special Studies. (1-5) F, W, Sp. Prerequisite: Consent of the instructor. Staff

All independent study.

BIOCHEMISTRY

100A-B. Cellular Structure and Function. (4-6) F, W. Fineberg and Staff

Lectures and conferences in biochemistry including aspects of cell physiology and cellular ultrastructure. Fundamental knowledge is presented in the context of its applicability to clinical medicine.

101A-B. Clinical Correlation Course in Cellular Structure and Function. (1-3) F, W. Prerequisite: Only students waived by Biochemistry 100A-B will be required to take this course.

Fineberg and Staff

A component of Biochemistry 100A-B. 2 hours comprising sessions conducted jointly by members of the clinical and basic science departments, presenting cases of metabolic disease and discussing the underlying biochemical disturbances.

100A-B. Cellular Structure and Function. (3.5-5) F, W. Lecture: 5 hours. Fineberg

Lectures in biochemistry including aspects of cell physiology and cellular ultrastructure, with some emphasis in the area of connective and mineralizing tissues. Fundamental knowledge is presented in the context of its applicability to the clinical health sciences.

111. Special Study for First-Year Students. (2) F, W. Lecture and Seminar: 2 hours. Prerequisite: A general course in biochemistry.

Newbrun and Staff

Discussion of biochemical problems of interest in dentistry including enamel, saliva, mineralization, connective tissue, plaque, and oral bacterial metabolism.

120A-B. Cellular Structure and Function. (3-5) F, W, Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours. Fineberg and Staff

Lectures and conferences in biochemistry including aspects of cell physiology and cellular ultrastructure, with some special emphasis in the area of drug metabolism. Fundamental knowledge is presented in the context of its applicability to clinical medicine.

120. Biochemistry of Metabolic Disease. (3-5) W. Prerequisite: Biochemistry 120A-B or equivalent. Lecture: 3 hours. Eiler

A continuation of the studies of metabolism with emphasis on the clinical aspects of metabolic pathways associated with disease in man. Consideration will be given to clinical laboratory biochemistry data.

130. Research in Biochemistry. (1.5 per week) F, W, Sp. Prerequisite: Consent of the instructor. Staff

Research in biochemistry.

170. Human Nutrition. (2) F. Sp. Prerequisite: Biochemistry 170A-B or its equivalent.

Nutritional aspects of the metabolism of protein, lipid, carbohydrate, and vitamins. Energy requirements and mineral metabolism from the standpoint of human nutrition.

189. Supervised Study in Biochemistry. (1-5) F, W, Sp. Staff

Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

199. Laboratory Project in Biochemistry. (1.5-5) F, W, Sp. Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

200A-B. General Biochemistry. (3-3) F, W, Sp. Prerequisite: Calculus, physical
200 Courses

Chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are highly desirable. Students with adequate background may enroll at any quarter with the consent of the instructor.

Staff

A comprehensive, year-long course of lectures, problems, and group discussion consisting of general biochemistry.

210A. Physical Biochemistry I. (3) W. Prerequisite: A year course each of organic and physical chemistry or consent of the instructor. Lecture: 3 hours.

Yang

Application of physical concepts and experimental methods to the study of the structure and function of biopolymers.

210B. Physical Biochemistry II. (2) Sp. Lecture: 2 hours.

Cook


292. Computation in Biochemistry and Physiology. (5) F. Prerequisite: Consent of the instructor. Lecture: 5 hours.

Martinez

Methods of digital and analog computation with applications to biochemical and physiological research. Elements of Fourier program organization, data analysis, and data processing. Demonstrations and exercises on University computers.

293. Introduction to Biomechanics. (3) Sp. Prerequisite: Biochemistry 190, Physiology 190, or Physiology 250. Lecture: 5 hours.

Landahl

Mathematical modeling of enzyme kinetics, metabolic and hormonal control mechanisms, cooperative interactions of macromolecules, diffusion and active transport, membrane models, excitation and conduction, flow, irreversible thermodynamics. Course offers student experience in problem formulation and reading of current literature.

297. Biochemistry of Connective Tissues. (2) W. Prerequisite: Biochemistry 110A-B or equivalent and consent of the instructor. Lecture: 2 hours.

Newburn

Lectures and assigned reading on chemistry, structure, and metabolism of the mucopolysaccharides, collagen, and elastin. Principles of biochemical reactions of connective tissues.


Staff

Discussion of selected areas of biochemistry, biophysics, and biomathematics.


Rutter

Biochemical and ultrastructural aspects of cell differentiation and embryologic development, with special emphasis on regulatory mechanisms.

213A-B. Bio-Organic and Protein Enzyme Mechanisms. (2-5) F, W.

Santer

Biochemically important chemical transformations from the physical organic point of view, emphasizing catalytic mechanisms pertinent to enzymatic reactions, and to the development of enzyme model systems. Intermolecular forces and enzyme-substrate interactions. Techniques of investigating enzyme mechanisms.

214. Amino Acid and Protein Metabolism. (2) W. Prerequisite: Biochemistry 110A-B or equivalent. Lecture: 2 hours.

Tarver

The fate of body protein, protein requirements, specific dynamic action; turnover of tissues and plasma proteins. Interpretation of isotope tracer studies. Amino acid catabolism and formation of important biochemical products.


A laboratory rotation course to familiarize new departmental graduate students with various approaches to biochemical and biophysical research.


Kelly

Lectures and discussion on topics of current interest in biochemistry and biophysics.


Spudich

Presentation of selected topics in biochemistry by graduate students of the Department of Biochemistry.


297. Special Study. (1-5) F, W, Sp. Staff

Lectures and conferences for properly qualified students under the direction of a member of the staff.

288. Thesis. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Staff

For students engaged in writing the thesis for the masters degree.

299. Dissertation. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Staff

For students engaged in writing the dissertation for the Ph.D. degree.

BIOMATERIALS


Jendresen

Students are introduced to the physics, chemistry, and metallurgy of materials used in dentistry; the effect upon physical and chemical properties of materials in respect to their uses. The material systems studied are glass, cements, resins, waxes, collodion, and metals.


Jendresen

Students are presented the rationale for the use of selected biocompatible materials. Each major restorative material will be studied in respect to its manipulation and clinical application.


Jendresen

Students are taught to analyze accurately clinical restorative problems with respect to major material systems. Emphasis will be placed on understanding why clinical failures occur with selected materials and what biological responses can be expected.


Jendresen

A laboratory rotation course to familiarize new departmental graduate students with various approaches to biochemical and biophysical research.


Jendresen

An introduction to the basic concepts associated with selected dental materials. Emphasis is placed on the use and manipulation of materials commonly used in the practice of dentistry.


Jendresen

A survey of current research in the dental materials field, including evaluations of recently introduced materials and a review of the limitations and indications for all basic materials commonly used.


Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the division.

BIOMATERIALS

190A-B-C. Biomathematics. (3-3-5) F, W, Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours.

Heilbronn


191A-B-C. Advanced Calculus and Differential Equations. (3-3-5) F, W, Sp. Prerequisite: Biomathematics 190C or equivalent.

Ratter


BIOPHYSICS


299. Dissertation. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Staff

For students engaged in writing the dissertation for the Ph.D. degree.

BIOSTATISTICS

120. Statistical Treatment of Clinical and Laboratory Problems. (5) Sp. Lecture: 2 hours. Laboratory and conferences: 2 hours.

Elastoff, Zippin

Concepts and techniques for the planning and analysis of clinical studies and scientific experiments. Introduction to statistical techniques to summarize observations and draw inferences from the data, design, and execution of the investigation.

151B. Elementary Statistics. (2) W. Lecture: 2 hours.

K. Heiner

An introduction to the elementary concepts of descriptive and inferential statistics encountered in biomedical research literature.

151C. Review of Scientific Literature. (2) Sp. Lecture: 2 hours. Prerequisite: Biostatistics 151B.

Zippin

Emphasis will be on critical reviews of selected scientific literature in addition to planning, writing, and carrying out a small research study.

190. Introduction to Biostatistics. (5) F. Lecture: 3 hours.

Zippin

Principles of collection and tabulation of data; measures of morbidity, mortality, and health sciences; standardization techniques;
planning of surveys, descriptive and inferential statistics.

191-B. Introduction to the Theory of Statistics. (2-2-3) W. Sp. Prerequisite: Differential and integral calculus or consent of the instructor. Lecture: 2 hours. Zippel, Elashoff

Introduction to probability, distribution theory, and stochastic processes in biology and medicine.

197. Introductory Statistics. (4) F. Lecture: 5 hours. Laboratory: 2 hours. Elashoff, Zippel

An introduction to statistics.

202. Regression, Analysis of Variance, and Design of Experiments. (4) W. Prerequisite: Biostatistics 197. Lecture: 3 hours. Laboratory: 2 hours. Elashoff, Zippel

This course considers analysis of variance and covariance, regression, and the statistical design of experiments.

261C. Biometrical Data Analysis. (3) Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours. Elashoff

Analysis of approaches to data analysis. Transformation, selection bias, model building. Each student will be responsible for an in-depth analysis of a controversial study.

262A. Biometrical Data Analysis I. (3) W. Prerequisite: Consent of the instructor. Lecture: 3 hours. Elashoff

Alternative approaches to data analysis. Transformation, selection bias, model building. Each student will be responsible for an in-depth analysis of a controversial study.

262B. Biometrical Data Analysis II. (3) Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours. Elashoff

Data analysis and packaged program control statements. Data generation and reduction. Medical diagnosis, pattern recognition and data exploration.

263A. Practicum in Biostatistical Consultation. (3) F. Prerequisite: Consent of the instructor. Lecture: 3 hours. Elashoff

Supervision in statistical consulting.

263B. Practicum in Biostatistical Consultation. (3) W. Prerequisite: Consent of the instructor. Lecture: 3 hours. Elashoff

Supervision in statistical consulting.


Directed reading and research in statistics.

CHEMISTRY

11. Organic Chemistry. (3) F. Prerequisite: Chemistry IA-B-C or equivalent. Lecture: 3 hours. T. de Montealanna

An introductory study of the structure, stereochemistry, reactivity, and functionality of compounds in carbon.

12. Organic Chemistry. (3) W. Prerequisite: Chemistry H. Lecture: 5 hours. K. L. Craig

An elective continuation of Chemistry 115. Lecture and Conference: 4 hours. Sheller, Castagnoli

152. Organic Chemistry—Laboratory. (3) W. Prerequisite: Chemistry 11. Lecture: 1 hour. Laboratory: 5 hours. Ketcham

Laboratory techniques in organic chemistry. The preparation and study of organic compounds, with an introduction to quantitative organic analysis.


A continuation of the study of compounds of carbon including some aromatic, hydroaromatic, and heterocyclic compounds.

115. Physical Chemistry. (3) F. Prerequisite: Chemistry 5 or equivalent laboratory course in quantitative analysis and integral and integral calculus. Lecture: 4 hours. Demonstrations and Conference: 3 hours. Sheller, Kutz

Elementary physical chemistry, with particular emphasis on thermodynamics.

116. Physical Chemistry. (5) W. Prerequisite: Chemistry 115 or equivalent. Lecture: 15 hours. Conference and Demonstrations: 15 hours. Sheller, Kutz, Kollman

Elementary physical chemistry with emphasis on chemical kinetics.

115. Survey of Physical Chemistry. (3) F. Prerequisite: Differential and integral calculus and college physics. Lecture: 2 hours. Kutz, Sheller

Intended to serve as background for Chemistry 160, 161, and 162 for advanced students who lack proficiency in basic physical chemistry.

151. Physical Chemistry. (5) Sp. Prerequisite: Chemistry 116 or equivalent. Lecture: 8 hours. Kollman

An elective continuation of Chemistry 115 and 116. Elementary physical chemistry emphasizing aspects of spectroscopy and quantum mechanics.

155. Chemical Toxicology. (2) F. Lecture: 1 hour. Laboratory: 3 hours. K. H. Lee

The methods of chemical detection and analysis of the common poisons. Normally open to third- and fourth-year students.

156. Physical Chemistry. (4) Sp. Prerequisite: Chemistry 115. Lecture: 5 hours. Laboratory and Conference: 4 hours. Sheller, Castagnoli

An elective continuation of Chemistry 115. Lecture and Laboratory exercises in elementary physical chemistry emphasizing aspects of spectroscopy and quantum mechanics.

157. Organic Chemistry—Laboratory. (5) Sp. Prerequisite: Chemistry 12 and Conference. Lecture: 1 hour. Laboratory: 8 hours. Ketcham, Craig and Staff

A course with some flexibility depending on the student’s interest in the area of qualitative organic analysis or organic synthesis, dealing in part with compounds of pharmaceutical interest.

158. Physical Chemistry—Laboratory. (1) Sp. Prerequisite: Concurrent enrollment in Chemistry 151. Laboratory: 5 hours. Kollman, Sheller

Laboratory exercises in conjunction with Chemistry 151.


Advanced experiments in organic chemistry intended to broaden and further knowledge of experimental procedures.

160. Advanced Physical Chemistry. (5) W. Prerequisite: Two quarters of physical chemistry or consent of the instructor. Lecture: 5 hours. Kutz

Chemical thermodynamics.

161. Advanced Physical Chemistry. (5) Sp. Prerequisite: Chemistry 116 or equivalent. Lecture: 5 hours. Kutz

Thermodynamics and applications of chemical kinetics.

162. Advanced Physical Chemistry. (4) F. Prerequisite: Chemistry 151 or equivalent. Quantitative with differential equations could be advantageous. Lecture: 4 hours. Kollman

Quantum mechanics and applications to molecular problems.


A study of the reactions of organic compounds by applying a system of qualitative analyses to the determination of characteristic groups.

170. Group Studies Course. (1-4) F, W. Sp. Prerequisite: Permission to enroll must be obtained from the instructor and student’s advisor. No final examination. Graded on a pass/fail basis.

Staff

Group studies of selected topics in chemistry.


Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.


A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

202. Advanced Organic Chemistry. (4) W. Prerequisite: Chemistry 113, 116, 157, and 165 or the equivalent. Lecture: 4 hours. Ketcham

A study of the detailed processes associated with organic reactions.


Physical organic chemistry; the structure of molecules and their relationship to mechanisms of reaction.

204. Organic Chemistry: Reactions and Synthetic Methods. (2) F. Prerequisite: Chemistry 113, 115, or equivalent. Chemistry 116 is suggested. Laboratory: 6 hours. Craig

A course of advanced laboratory work emphasizing the major reactions and newer synthetic methods used in organic chemistry.

205. Recent Advances in Synthetic Methods. (2) F. Prerequisite: Chemistry 113, 115, or equivalent. Chemistry 165 is suggested. Lecture: 2 hours. Craig

Recent advances in synthetic methods, comprising specific catalyzing agents, specific reducing agents, and other specific reagents.


Terpenes and steroids. Occurrence, chemistry, stereochemistry and structure-function relationships of natural products, such as carotenoids, fat-soluble vitamins and steroids, and their precursors.

209. Chemistry of Heterocyclics. (5) Sp. Prerequisite: Chemistry 113, 115, or equivalent. Lecture: 5 hours. Castagnoli

A survey of the main nitrogen, oxygen, and sulfur-containing heterocycles.

CLINICAL DENTISTRY


Clinic: 30 hours. Staff

Responsibility for patient dental care in
the wards and comprehensive clinic under the direction of the attending staff. Dental consultations and treatment will be coordinated with medical care. Interns will take histories, perform oral examinations, laboratory tests, and dental treatment.

CLINICAL LABORATORY SCIENCE

102A-B. Instrumentation in the Clinical Laboratory. (2-28) F, W. Prerequisite: Consent of the instructor. Lecture: 1 hour. Laboratory: 2 hours.

170A-B. Microbiology. (1-16) W. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 1 hour. Credit.

Clinical Pathology. Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radioisotopes are conducted in the Clinical Laboratories at UC and SF.

170A-C. Immunohematology. (2-28) W. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 4 hours. Credit.

Blood banking and related topics of immunohematology will be covered by formal lectures, demonstrations, case discussions, and seminars on blood groups, compatibility testing, tissue typing, and antibody screening, and immunohematology in pregnancy, blood component therapy, and transfusion reactions.

104. Pharmacology. (1) Sp. Prerequisite: Pharmacology 102B or equivalent. Lecture: 0.5 hour. Credit.

This course will cover the pharmacology requirements of Clinical Laboratory Science students. The course content will be similar to that of Pharmacology 102C, but will be much briefer. Emphasis will be placed on laboratory aspects of drug therapy.

104A-B-C. Clinical Chemistry. (2) F, W, Sp. Prerequisite: Degree in Chemistry or Medical Technology license. Lecture: 2 hours. Laboratory: 2 hours.

Principles and evaluation of chemical laboratory methods used to diagnose abnormalities in metabolism and function.

CLINICAL PATHOLOGY AND LABORATORY MEDICINE

140. Hematology Clerkship. (1-15) F, W. Prerequisite: Second-year pathology equivalent; recommendation from one faculty member. Shohet and Staff Clerks.

Clerks primarily in clinical evaluation of hematologic patients. When interesting problems are found, time will be available for distinct laboratory projects relevant to these problems. Clerks will act as primary consultants under close supervision of hematology residents and fellows.

170A-C. Clinical Pathology. Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radioisotopes are conducted in the Clinical Laboratories at UC and SF.

170A-C. Immunohematology. (2-28) W. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 4 hours. Credit.

Blood banking and related topics of immunohematology will be covered by formal lectures, demonstrations, case discussions, and seminars on blood groups, compatibility testing, tissue typing, and antibody screening, and immunohematology in pregnancy, blood component therapy, and transfusion reactions.


SF Polkove, UC Brecher, F, D, Parekh

Principles of laboratory tests in hematology, clinical chemistry, microbiology, and blood banking as well as interpretation of results and correlation of clinical and laboratory data. Residents participate in performance of tests and certain administrative duties related to operation of clinical laboratories.


SF Polkove, UC Brecher, F, D, Parekh

Theory and methodology of clinical chemistry, serology, blood banking, hematology, microbiology, parasitology, and clinical microbiology. Emphasis on interpretation and correlation of data and study of literature.

DENTAL AUXILIARY UTILIZATION

140. Introduction to Use of Dental Auxiliaries. (1.5) Sp. Prerequisite: Preventive Dentistry and Community Health I. Lecture: 1 hour for one-half of quarter. Levin and Staff

Classroom instruction and demonstrations in the effective use of the dental assistant. High productivity practice methods will be emphasized.

149. Clinical Utilization of Dental Auxiliaries. (1.5) W, Sp. Prerequisite: Dental Utilization 140. This course must be taken concurrently with Pedodontics 149.

Clinical rotation: Total 60 hours.

Wycoff and Staff

Clinical training in four-handed, sit-down dentistry using full-time dental assistants. The course will be conducted in two-week blocks of five students in conjunction with the Division of Pedodontics.

DENTAL HEALTH EDUCATION

150B. Introduction to Patient Education. (2) W. Lecture: 2 hours.

Walsh

The student is acquainted with theories and methods of the basic principles of education and learning. These are further applied to patient instruction, motivation, and attitude development. Students also participate in the design, research, and construction of table clinics.

150C. Chairside Dental Health Education. (2) Sp. Prerequisite: Dental Health Education 150B. Lecture: 2 hours.

Walsh

Students are acquainted with theories and methods of education and motivational techniques that apply to their role as a dental hygienist. Appropriate experiences are provided in utilizing this knowledge in local junior high schools.

160B. Community Dental Health. (2) W. Lecture: 2 hours.

Walsh

Students are acquainted with theories and methods of education and motivational techniques that apply to their role as a professional resource person in the community. Appropriate experiences are provided in utilizing this knowledge in local colleges and universities.

19C. Special Studies in Dental Health Education. Variable (1-3) Sp. Prerequisite: Dental Health Education 150B-C. Lecture: 1 hour. Laboratory: 1 hour. Credit.

Walsh

Students will undertake a project of their own choice, subject to the approval of the instructor, in an area of dental health education.

199. Special Dental Health Education. (1-2) Sp. Prerequisite: Dental Health Education 150B-C. Lecture: 1 hour. Laboratory: 2 hours.

Walsh

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

DENTAL HYGIENE

109. Dental Hygiene. (1-2) 55. Clinical Dental Hygiene. (1-2) 55A-B. Prerequisite: Dental Hygiene 155A-B. 159. and enrollment subject to the approval of the chairmen of the division.

Poupard

Provides additional clinical dental hygiene experience before entry into the second-year clinic.

150A-B-C. Fundamentals of Dental Hygiene. (2-21) Sr. Lecture: 2 hours, 1 hour.

The role of the dental hygienist in preventive dentistry is studied with emphasis on the objectives and principles of oral prophylaxis. Introduction to the anatomy and physiology of the oral cavity and to dental disease.

150A. Dental Morphology. (2) F. Lecture: 2 hours. Prerequisite: Must be taken concurrently with Dental Hygiene 150A. Hartman
The development and form of deciduous and permanent dentition and occlusion. Study of individual tooth form and arch form to interarch relationships as well as endodontic morphology.

151. Orientation to Dentistry. (1) W. Lecture: 1 hour.

Poupard

The student is familiarized with clinical dental procedures. Subject areas covered include: orthodontics, periodontics, oral surgery, anesthesiology, etc.

155A-B. Introduction to Clinical Prophylaxes. (2-5) F, W. Clinic: 6 hours. Dent, Ishida

Manakin as well as practical experiences in the laboratory and clinic for the purpose of learning instrumentation techniques of oral prophylaxis in addition to taking medical histories and performing oral inspections.

159. Clinical Oral Prophylaxes. (2-5) Sp. Clinic: 6 hours. Prerequisite: Dental Hygiene 155A-B.

Poupard and Staff

Continuation of clinical experiences from Dental Hygiene 155A-B with emphasis on improved proficiency in all areas.


Dent

The student will identify her personal and professional role as a member of the dental health team and will be informed of general office policies and procedures. Other subjects discussed include: selection of a position; taxes, ethics, jurisprudence, and insurance.

161A-B. Orientation to Dentistry. (1-2) F, W. Lecture: 2 hours; F, W. Lecture: 1 hour. Prerequisite: Dental Hygiene 151.

Poupard

Continuation of Dental Hygiene 151.

162A-B-C. Advanced Clinical Oral Prophylaxes. (3-3) 1st: Clinic: 11 hours. Prerequisite: Dental Hygiene 155A-B and 159.

Poupard and Staff

Advanced oral prophylaxes techniques including work in institutional dental clinics.

169. Special Study. (1-5) F, W, Sp. Prerequisite: Senior-class standing and approval of the instructor.

Poupard

Students select an area of interest for independent study or research. Areas may include clinical, community, educational, institutional, or other.


R. Miller

Clinical experience in mobile dental clinics.

185.2. Community Health Clinical Practive. (1/2-2 per quarter) F, W, Sp. Registration in dental hygiene curriculum. Prerequisite: At least winter quarter standing of first-year dental hygiene curriculum; fall, winter, summer second-year dental hygiene curriculum.

Poupard

One-half unit of credit for every five three-hour visits made to off-campus clinics or institutions. Object is to secure community experience and involvement. This elective is subject to the required eight visits to off-campus clinics and institutions.

199. Laboratory Project in Dental Hygiene. (1-5) F, W, Sp.

Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the division.

DENTAL JURISPRUDENCE

140. Dental Jurisprudence. (1) W. Lecture: 1 hour.

Bradley

Student insight into the legal problems and obligations of dental practice is broadened.

DENTAL TECHNICS

115A-C. Basic Dental Technics. (2-4) F, W, Sp. Laboratory: 1 hour, 6 hours, 3 hours.

Stark and Staff

The first-year student is instructed in technics necessary for accuracy in manipulation of materials. Impressions taking, pouring of casts, waxing technique, investing, casting, and soldering are covered. Manipulation of restorative materials will be demonstrated and used in the laboratory.

185. Introduction to Basic Dental Technics. (2-5) F. Laboratory: 1 hour; Clinical: 3 weeks.

Brigante

Technical orientation to the basic technics taught in the first year in dentistry (morphology, prosthodontics, biomaterials, operative dentistry).

DERMATOLOGY

Core Clerkship—Ambulatory and Community Medicine 110 includes lectures and case demonstrations on the examination and diagnosis of dermatological diseases. This includes instruction in history-taking, physical diagnosis, and diagnostic and therapeutic procedures.

140.01. Clinical and Research Dermatology. (1/2 per week) Su, F, W, Sp. Prerequisite: Consent of the instructor.

Epstein

Activities of enrollees are determined after an initial interview with the instructor. Emphasis is placed on routine outpatient and inpatient care and research methods according to individual interest.

140.02. Clinical Clerkship. (1/2 per week) Su, F, W, Sp. Prerequisite: Consent of the instructor.

Clinical clerkship in approved hospitals by special arrangement and approval of the Dean of the School of Medicine and chairman of the department.

160.01. Clinical and Research Dermatology. (1-5) F, W, Sp. Prerequisite: Consent of the instructor.

Epstein

Activities of enrollees are determined after an initial interview with the instructor. Emphasis is placed on routine outpatient and inpatient care and research methods according to individual interest.


Consant

Rounds daily on inpatient dermatology patients. Informal discussions of diagnosis and management of the hospitalized dermatology patient.

160.03. Introduction to Dermatology. (1) W, Crann and Staff

This course is an introduction to the basic language, diagnostic techniques, and recognition of common skin disorders seen by practitioners. It will contain demonstrations followed by open discussions with color slides of the disease to be presented.

190. Laboratory Project in Dermatology. (1-5) F, W, Sp.

Fukuyama, Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.


W. L. Epstein and Staff

Residents prepare and present case histories of patients at conferences making reference to appropriate literature, special studies, and laboratory work. Conferences include discussions of new developments and research investigation by staff members and professors from other UC departments and other universities.


UC Goodman

Residents receive two hours of didactic lecture and demonstration of histopathology of skin diseases with special emphasis on correlation with clinical findings. They take an active part in the study of microscopic sections and discussions of material presented.


Malabach and Staff

Seminar covers recent literature in dermatology. It includes assigned reading with required reports which are evaluated by members of the faculty.


Epstein

Seminars involve discussions, required reading, and reports on dermatology and the related basic sciences: embryology, histology, pathology, and histopathology in relation to dermatologic conditions; and anatomy as it relates to the skin.


W. L. Epstein and Staff

Seminar involves the evaluation of recent clinical cases of special interest. The cases are presented by the faculty and resident staff.

405. Research in Dermatology. (3-3-3-3) F, W, Sp.

Fukuyama

Instruction will be given in the conduct of research projects dealing with electron microscopy, biology, biochemistry, and immunology of the skin under normal and pathological conditions.


W. L. Epstein and Staff

In-depth discussion of the sciences basic to an understanding of the function and dysfunction of skin including anatomy, physiology, microbiology, pharmacology, biochemistry, genetics, pathology, etc. Over a three-year period, covers all aspects of basic sciences relevant to dermatology.

409. Clinical Dermatology. (1/2 per week) Su, F, W, Sp. E. McGinley; PHS Faisal, Baker; UC Concavi; SF Gellin; J M Tufanelli

Residents, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examinations, and consultations. In addition, the senior resident has certain administrative, teaching, and clinical responsibilities.


J. H. Epstein

Residents, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examinations, and consultations. In addition, the senior resident has certain administrative, teaching, and clinical responsibilities.


W. Epstein

Assistant residents in off-campus hospitals (in the United States and abroad) approved by the department chairman and the Dean.
Course includes training in clinical and investigative dermatology.

ECONOMICS
150. Economics of the Health Services. (3) W. Prerequisite: Consent of the instructor. Lecture: 3 hours. Staff
Considered the health service sector of the economy; its structure and the pricing, financing, and allocation of health services. Emphasizes questions of public policy.

151. Principles of Economics. (3) Sp. Lecture: 3 hours. Staff
An introduction to the principles of economic analysis. Investigates the forces determining the allocation of resources, the composition of output, and the level of income and employment in the American economy. Not recommended for students who have received credit for either Economics 1A or 1B.

Lectures and group discussions relating to dental practice. Subject areas covered include equipment selection, auxiliary personnel, consultation and financial procedures, recall, and accounting systems. Prepaid dental care programs and the role of professional organization are presented by guest lecturers.

ENDODONCICY
190. Animal Hormones and Their Actions. (2S) Sp. Lecture: 2 hours. To be given in alternate years. Loechel, Papkoff
Basic information on animal hormones, their structure, functions, and interrelationships. Concepts regarding hormonal actions are derived from chemical (structure-function) and biological (in vivo, in vitro) studies. Where possible, mechanisms will be discussed.

191. Topics in Endodontology. (1) Sp. Prerequisite: Endodontics 190 or consent of the instructor. Lecture: 1 hour. To be given in alternate years. Papkoff, Loechel
Selected topics of current interest.

192. Structure and Function of the Hormones. (2) W. Prerequisite: Course in basic biochemistry. Lecture: 2 hours. Papkoff, Ramachandran
Course will examine the chemical nature of the hormones; the methods employed for purification, characterization, structural determination, and synthesis; the relationship of molecular structure to biological activity will be studied, as well as comparative and evolutionary aspects.

Students will attend and participate in a seminar series devoted to topics of current interest in endodontology.

250. Research (1-8) F, W, Sp. Staff

ENDODONTICS
139. Clinical Endodontics. (2) 2d year of Endodontics. 115B F, W, Sp. Prerequisite: Operative Dentistry 115B. 115A and 120A-B-C. Clinic: Variable. Nguyen and Staff
Clinical endodontics.

140. Clinical Endodontics. (2) 2d year of course F, W, Sp. Prerequisite: Operative Dentistry 115A. Clinic: Variable. Nguyen and Staff
Continuation of Clinical Endodontics 139.

140A. Endodontics Clinical Practice. (1-3) F, W, Sp. Prerequisite: Approval of the division chairman. Clinic: Variable. Nguyen and Staff
Clinical experience at the level of Endodontics 139 and 149.

140B. Advanced Clinical Endodontics (1-3). Sp. Prerequisite: Approval of Course Review Committee and the instructor. Clinic: 5-12 hours. J. Sapone
Advanced instruction in the field of clinical endodontics.

ENGLISH
151. Literature and Experience. (3) F. Prerequisite: Open to all registered students on the campus.
Fixed
The perspective of contemporary literature as reflected in contemporary literature. A close reading and study of selected European stories, plays, and poems. Works are chosen that illustrate the relation of self to the world, the search for awareness, and identity.

152. Literature and Reality. (5) W. Prerequisite: Consent of the instructor. Fixed
Consideration of modern literature as the expression of an intense encounter between the self and the world, emphasizing themes of alienation and search for identity, and placing the themes within a context of historic and social relationships and of culture and consciousness.

153. Literature and Society. (3S) Sp. Prerequisite: Consent of the instructor. Fixed
Consideration of modern literature as only reflecting our culture and society but as shaping it. In addition to assigned readings, guest teachers and writers will discuss their problems in creating and presenting literature as an immediate and relevant reality.

EXODOLATIVE CYTOLOGY
Lectures in cytology include normal, malignant, and abnormal histologic cells. Instruction covers methods of specimen collection, preparation, staining, and microscopic examination of specimens; development of speed and accuracy in microscopic examination; and correlation of cellular and tissue pathology.

FIXED PROSTHODONICS
Lum
The basic principles of fixed prosthodontics.

115. Techniques in Fixed Prosthodontics. (2) F. Hamaguchi and Staff
The basic techniques of fixed prosthodontics.

125A-B. Fixed Prosthodontics Laboratory. (2-3) W. Laboratory: 6 hours. Prerequisite: Fixed Prosthodontics 110 and 115. Biomaterials 110B-C; Dental Technique 115A-B-C.

130A-B-C. Fixed Prosthodontics Theory. (1) 1st year Lecture: 1 hour. Mcl; F. Teal; W. Noble
130A. Porcelain Bonded to Gold. (1/2) F, W, Sp. Laboratory: 9 hours rotation plus outside assignments.
130B. Ceramics. Discussion of preparation of teeth for the reception and fabrication of porcelain-bonded-to-gold restorations including color selection and staining techniques of porcelain and porcelain-bonded-to-gold restorations. Students receive credit after rotation is completed.

139. Clinical Fixed Prosthodontics. (2) F, W, Sp. Prerequisite: Third-year standing in fixed prosthodontics. Sheets and Staff
Clinical instruction. Third-year lectures must be taken concurrently.

Clinical instruction.

Students in Fixed Prosthodontics Certificate Program must register for this course each quarter and summer session. Lorencski
New concepts and theories discussed and related to research and clinical practice. Students encouraged to develop new concepts in the application of basic sciences and research to fixed prosthodontics.

171A-B-C. Clinical Procedures in Fixed Prosthodontics. (3) Yr. Lecture: 1 hour. Clinic: 6 hours. Prerequisite: Admission to postdoctoral status and consent of the instructor.
Noble
Instruction and practice in the diagnosis, treatment planning, and treatment of clinical patients.

Noble
Clinical procedures in fixed prosthodontics. This course provides a continuation of clinical experience received in Fixed Prosthodontics 171A-B-C.

The advanced instruction and practice in the diagnosis, treatment planning, and treatment in fixed prosthodontics.

Clinical procedures in fixed prosthodontics. This course provides a continuation of clinical experience received in Fixed Prosthodontics 172A-B-C.

176A-B-C. Special Study for Postdoctoral Students. (1-5) F, W, Sp. Research: 5-15 hours. Lorencski
Original investigations in the field of fixed prosthodontics.

180. Oral Rehabilitation. (1) W. Seminar: 1 hour. Lorencski
The field of fixed prosthodontics and its relationship to other dental disciplines will be explored by means of case presentations to provide the student with a broad base of experience in oral rehabilitation techniques.

180L. Special Study Seminar. (1) Sp. Seminar: 1 hour. Limited enrollment. Staff students per instructor. Noble
Individual staff members will offer...
210 Courses

seminar type instructions on selected topics relating to fixed prosthodontics.


189.2. Advanced Clinical Fixed Prosthodontics. (1-2) F, W, Sp. Clinic 3-6 hours. Prerequisite: Consent of the instructor and the Dean.

Advanced clinical procedures. Instruction will be given in full-mouth rehabilitation procedures, the use of precision attachment, and the use of parallel pins in splitting and fixed prosthodontics.

189.3. Fixed Prosthodontics Clinical Practice. (1-2) F, W, Sp. Clinic 3-6 hours at Veterans Administration Hospital. Prerequisite: Fixed Prosthodontics 149 and consent of the Clinic Review Committee.

Noble Advanced undergraduate instruction and experience in clinical procedures in fixed prosthodontics.

190. Laboratory Project in Fixed Prosthodontics. (1-5) F, W, Sp. Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the division.

FORENSIC PATHOLOGY AND MEDICINE

170.01. Forensic Pathology and Medicolegal. (1) Sp. Seminar: 1 hour. Trowbridge

The course covers basic legal principles; torts and contracts; medical records and documents; medical licensure and certification; forensic pathology; the expert witness; malpractice and professional liability.

GENERAL DENTISTRY

149. General Dentistry. (1-4) F, W, Sp. Prerequisite: Freshman or sophomore status or approval of the instructor. Clinic variable.

Hall General Dentistry is an elective course in which the student performs patient treatment in a variety of clinical settings.

189.01. Mobile Clinics. (1-5) SS. Prerequisite: Third-year standing and satisfactory completion of all clinical and academic third-year courses. Clinic: 30-40 hours.

Stark Delivery of health care utilizing mobile clinics. Dental students will gain experience in clinical dentistry while treating children of migrant farm workers. Students will receive up to fifty points a week under the general dentistry requirement.

HEALTH SCIENCES EDUCATION

220A-B. Health Sciences Education Seminar. (2-2) F, W, Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Rosinski

Considers principles of learning, including individual student differences, techniques of instruction, and approaches to evaluation of student progress. Individual teaching plans are developed and critiqued. Emphasis will be placed on the graduate and professional school student as a learner.

HISTORY


Projections, based upon a background of the growth and development of the profession; develop "curves of probability" of future technical and biological developments. Growing social impacts upon the present and future practice of dentistry are stressed.

HISTORY OF HEALTH SCIENCES

150. History of Pharmacy. (3) Sp. Prerequisite: Upper division standing.

Schwarz, Leake The emphasis is on the historical development of pharmacy, its relation to the other health professions, and the personalities who significantly contributed to the advancement of health care.

17001. Methodology of Mediohistorical Research. (1-5) F, W, Sp. Staff

An introduction to the methodology of mediohistorical research. It is intended to prepare participants to evaluate critically mediohistorical literature, and to introduce them to doing independent research in the field of medical history.


Lectures and informal seminars on the growth of American medicine from Colonial times to the present with an examination of the sociopolitical and socioeconomic factors influencing this growth.


Veith Changing concepts of therapeutic from earliest times to the present in relationship to the changing climate of thought on the nature of the psychic process and psychic disorder.

17006. Introduction to the History of Medicine. (1-5) F, W.

Veith An introductory course intended for all students interested in the broad conceptual developments influencing the growth of medical science and the health professions from the classical to the modern period.

17007-A. History and Philosophy of the Health Professions. (1-2) SS, SSII. Leake Survey of the history and development of the various health professions and services, with consideration of economic and ethical factors involved. Paper required for two units.


Saunders and Staff

Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

180. History of Historical Method and Methodology of Medical History. (2-4) F, W, Sp. Lecture: 2-4 hours. Staff

A special reading and discussion course on historiography and historical method with biweekly seminars designed to teach students to do independent mediohistorical research and writing.

210. Introduction to the History of Biology. (1-2) SS I, SS II. Lecture and Seminar: 12 hours.

Leake An introductory course of broad scope on the evolution of biological thought.

220. Socioeconomic Factors in the Epidemiology of Medicine. (1-2) Sp. Lecture and Seminar: 1-2 hours. van der Reis

A survey of various social and economic parameters in the various cultures and their influence on disease.


Introduction to the history of neurological concepts.

240. History of Non-Western Medical Systems. (1-2) Sp. Prerequisite: History of Health Sciences 170.06 or 201. Lecture and Seminar: 1-2 hours. Veith

Seminar and directed readings on the philosophy of Oriental, Japanese, Indian, Tibetan, and other Non-Western systems.

205. Philosophy of Clinical Thought. (1-3) F, W, Sp. Prerequisite: Consent of the instructor/Lecture and Seminar: 1-3 hours. Guttenberg

Reading and conferences for qualified students.


Blaine For nurse teachers and graduate students.

210. History of the health sciences upon which nursing practice is based. Methods and exercises for teaching history in the clinical setting.


Staff Students, staff, or guest present selected topics concerned with current research.


Staff Reading and conferences for properly qualified students under the direction of a member of the staff.

298. Thesis. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of graduate adviser.

For students engaged in writing the thesis for the masters degree.

299. Dissertation. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.

For students engaged in writing the dissertation for the Ph.D. degree.

HOSPITAL DENTISTRY

170. Emergency Medical Care Seminar. (1) F, W, Sp. Seminar: 2 hours. Prerequisite: Post-doctoral or fourth-year standing.

Lim The course is designed to stimulate group discussion on the principles of emergency medical care. These include transportation, disaster planning, triage, cardiopulmonary resuscitation, management of shock, head and neck injuries, etc., as well as special problems related to dentistry.

171. Physical Diagnosis. (2) F. Lecture: 2 hours. Prerequisite: Registration in a post-professional specialty program. Fourth-year students may take this course as an elective.

Klein Designed to prepare the oral surgeon to conduct a physical examination as a preliminary evaluation before performing oral surgical procedures. Techniques of examination are demonstrated and practiced in the classroom; examination of pathologic conditions conducted at bedside.
172. Oral Biology Conferences. (1) W. Prerequisite: Postdoctoral standing. Seminar: 1 hour. Townbridge
Conferences include case presentations by interns and residents and seminars covering selected subjects in oral biology relevant to clinical and preventive dentistry.

HUMAN DEVELOPMENT
204A-B-C. Interdisciplinary Seminar in Human Development. (3-5-3) F., W., Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours. Lowenthal, Chiriboga, Clark. Science
Theory and research concerning adolescence to old age from sociological, psychological, psychiatric, and anthropological perspectives. Topics include stress, personality and cognitive change, time perspective, values, socialization processes, and adaptation. Reading and paper required. Students enroll for all three quarters.

204A-B-C. Seminar in Qualitative Analytic Methods. (3-3-5) F., W., Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours. Chiriboga, Pierce, Kifer
One quarter on longitudinal methods; one quarter on qualitative data analysis using students' research materials; and one quarter on methods of organizational research.

205. Seminar in Data Analysis. (F) F., W., Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours. Ronow
Students either provide their own or select data from ongoing Adult Development Program research. Focus is on training in data organization, analysis, and research report writing.

211. Developmental Model of Social and Political Attitudes. (F) Prerequisite: Consent of the instructor. Lecture: 5 hours. Ronow
By using poll, survey, and historical data, historical and developmental models of social change will be compared.

212. Anthropological Approaches to Personal Development. (2-4) F. Lecture: 2-4 hours.
A review of concepts and methods appropriate for the study of cultural factors in the development of identity. Emphasis will be placed on the attitudinal changes in members of ethnic and non-ethnic groups.

Students, staff, or guests present selected topics based on current research.

221A-B-C. Life Stress and Adaptations.
234. Social Psychology of Ego Development. (3) Prerequisite: Consent of the instructor. Lecture: 3 hours. Lowenthal, Chiriboga
Qualitative and quantitative analyses of life history protocols focusing on stress and perceptions of stress in relation to a variety of indicators of adaptation (psychological, physical, social) at various life stages from adolescence to old age.

222. Aging in Different Milieux. (5) Prerequisite: Consent of the instructor. Lecture: 3 hours. Kifer, Lurie and Staff
Aging in institutions; aging among ethnic groups; cross-class comparisons of aging; aging in noninstitutional milieux, such as retirement communities; public housing; housing characterized by various densities of age.

223. Development in Adolescence and Young Adulthood. (5) W. Prerequisite: Consent of the instructor. Lecture: 3 hours. Lowenthal, Spence and Staff
Review of theories, methods and research data on ego, personality, self-concept, and moral value changes in adolescence and young adulthood.

224. Community Politics and the Aging. (5) W. Prerequisite: Consent of the instructor. Lecture: 5 hours. Estes
Explore theories of community politics and methodologies for studying the aging. While current theoretical and methodological issues will constitute the major framework, attention will be directed to the local level to analysis of policy formation process pertaining to the aging.

231. The Adult Life-Course. (4) Prerequisite: Consent of the instructor. Lecture: 4 hours. Spence
Analysis of social and social-psychological variables over the adult life span. Emphasis is on stability and change in these variables throughout the life course.

232. Developmental Study of Kinship Structure. (5) Prerequisite: Consent of the instructor. Lecture: 5 hours. Thurnher
Kinship structure in Western and non-Western societies with emphasis on life cycle perspective of family roles and relations. Consideration is given to relevant empirical studies and one material.

235. Clinical Anthropology. (2) Prerequisite: Consent of the instructor. Lecture: 2 hours. Staff
Clinical data will be examined in several forms and anthropological concepts will be applied. Assigned readings and field study of a unit or section of the hospital will be used to prepare a written and oral report.

236. Social Psychology of Ego Development. (3) Prerequisite: Consent of the instructor. Lecture: 3 hours.
Readings focus on historical and current concepts of the interaction of self and environment. Comparison of modern approaches to ego development with earlier conceptualizations.

237. Social Aspects of Death and Bereavement. (3) Prerequisite: Consent of the instructor. Lecture: 3 hours. Kallub
An analysis of the social milieus in which dying and death occur, with implications for the dying person himself, his survivors, and those professionals who attend him.

249. Special Studies. (2-8) W., Sp. Prerequisite: Consent of the instructor. Lecture: 2-8 hours. Staff
Students select special problems to investigate on an individual or collaborative basis. These studies may be conducted through readings, the collection and analysis of empirical data, or the development of conceptual analyses or methodologies.


INTERDISCIPLINARY COURSE
100A-B-C. The Dynamics of Family Health. (2.2-2.2) F., W., Sp. Seminar: 3 hours. Laboratory: 5 hours. Prerequisite: Course 110A is a prerequisite of 100B, nor is 100B for 100C.
Davis
Students from the Schools of Dentistry, Medicine, Pharmacy, and Nursing working as a team in the delivery of health care. Course includes home visits, clinic appointments, observations of labor and delivery, postpartum care, and discussions of family-related problems.

INTERNATIONAL HEALTH
100. Medical Parasitology. (2) Prerequisite: Microbiology 100 (without parasitology) or equivalent. Heyneman and Staff
An introduction to protozoan and helminth drugs and human and animal diseases they produce with emphasis on host-parasite interactions. Parasite biochemical life cycles, clinical and diagnostic aspects considered in lectures, films, and kodakchrome showings. Laboratory demonstrations displayed throughout week.

140. Clinical Clerks Abroad. (1/2 week) F., W., Sp. Prerequisite: Nine months of clinical work.
Goldsmith
Clinical clerkships in developing countries, generally in a hospital or rural health

140. Clinical Clerks Abroad. (1/2 week) F., W., Sp. Prerequisite: Nine months of clinical work.
Goldsmith
Clinical clerkships in developing countries, generally in a hospital or rural health

150. Medicine in Developing Countries. (1.5 week) F., W., Sp. Prerequisite: Medical Parasitology. Lecture: 14 hours. Laboratory: 10 hours. Clinic: 6 hours. Independent Study: 6 hours. Staff
R. Goldsmith
Two-week block elective on the recognition and treatment of diseases of tropical and developing countries. The course is designed to prepare students for clerkships abroad. Presentation format includes lectures, seminars, films, laboratory sessions, and supervised independent study.

150. Field and Laboratory Research in the Tropics. (1.5 week) F., W., Sp. Prerequisite: Medical Parasitology. Dunn, Andy and Staff
Research under faculty supervision utilizing U.C. facilities in Latin America or occasionally elsewhere. Research may be in clinical fields as well as in basic medical sciences, preventive medicine, and public health. May immediately follow a student research fellowship abroad.

150. Tropical Medicine Clinic. (1) F., W., Sp. Prerequisite: Medical parasitology and six months of clinical experience. Goldsmith, Devele, Fouts
Examination and treatment of patients in the tropical medicine clinic under supervision of staff and assisting with consultations on hospitalized patients. Most of the patients seen in clinic have parasitic infections.

150. Host-Parasite Interactions and Pathology. (1) W. Prerequisite: Medical parasitology or equivalent. Heyneman
Lectures and discussions to review the patterns of host-parasite interactions involving protozoan and helminth infective agents of man. Topics selected will explore current views of immune and other types of response and their disorders that may result in human disease.

150. Perspectives on World Health. (1) F.
Lectures and seminars on hazards of introduced diseases, world population and
MEDICAL DIAGNOSIS
496. Medical Diagnosis. (2) Su, F, W, Sp. Clinic: 6 hours. Crede and Staff. The dental intern will participate in medical history-taking, physical examinations, ordering laboratory tests and developing differential diagnoses on medical clinic patients under the supervision of the medical staff. Comprehensive care of patients is emphasized. 

MEDICAL ILLUSTRATION
400. Medical Illustration. (10) F. Emery Fundamentals of Medical Illustration; elementary pencil sketching of bones; elementary principles of halftone and pen and ink illustration. Gross anatomy. 
401. Medical Illustration. (14) W. Emery Techniques of pencil sketching of specimens; halftone on Rens bureau, pen and ink drawing; lettering of charts and graphs using freehand, guide, and transfer letters.
405. Medical Illustration. (14) W. Emery Sketching in experimental surgery and operating room. Illustration of surgical procedures in color, black and white, halftone, and pen and ink.
225. Design of Medical Information Systems. (4) W. Prerequisite: Consent of the instructor. Lecture: 4 hours. Henley

Design of previous medical information systems will be examined. Successful components of these systems will be studied in depth, with respect to cost performance and acceptability. Proposals for new systems will be presented and reviewed.

230A. Compumetrics: Probability Modeling and Simulation. (5) W. Prerequisite: Introductory Statistics and Calculus. Lecture: 2 hours. Laboratory: 3 hours. Eshleman, Heilbrun

Topics: role of simulation, design and interpretation of benchmarks, analysis of outputs from hardware-software models, development of suitable analytic models. Problems of demand structure also will be studied as well as a qualitative analysis of systems structure.

230B. Compumetrics: Statistical Data Analysis. (5) W. Prerequisite: Introductory Statistics and Calculus. Lecture: 2 hours. Laboratory: 3 hours. Eshleman, Heilbrun

This course is concerned with measurement problems in computer systems behavior and performance. Topics include experimental and statistical analysis of variance, regression, and forecasting.

250. Research in Medical Information Science. (1–6) F, W, Sp. Staff

250A. Seminar in Medical Information Science. (1–6) W. Sp. Lecture: 1 hour. Laboratory: 3–15 hours. Staff

250B. Seminar in Medical Information Science. (1–4) F, W, Sp. Lecture: 1 hour. Laboratory: 3–15 hours. Staff


For students engaged in writing dissertations for the Ph.D. degree.

MEDICAL TECHNOLOGY

100. Introductory Clinical Microbiology. (2) F. Lecture: 2 hours. Hayden, Cohen

Brief survey of discipline of clinical microbio- logy and serology. Introduction to literature of field. Fundamentals of statistics and evaluation of data as applied to microbiologic analysis and laboratory quality control.


Instruction and laboratory practice in the isolation and identification of bacteria from clinical specimens; and the evaluation of pathogenic significance of the bacteria.

102. Environmental Microbiology. (4) W. Lecture: 2 hours. Laboratory: 6 hours. Hadley

Instruction and laboratory observation of the indigenous bacteria, fungi, and protozoa of the human. The microbiology of water, milk, food, and the hospital environment. The scientific basis and laboratory experience with sterilization and disinfection will be studied.


Instruction and laboratory practice in the examination and study of clinical material for the detection and identification of animal parasites.


Instruction and laboratory practice in the isolation and identification of fungi associated with the more important mycotic infections of man.

115. Clinical Virology. (3) W. Lecture: 2 hours. Laboratory: 3 hours. Heynekan, Drew

Instruction, demonstrations, and laboratory practice: viral isolation and identification procedures. The rapid detection of specific viral infection.

120A-B. Clinical Immunology and Serology. (2–4) F, W, Sp. Lecture: 2 hours. Laboratory: 6 hours. Hadley

Introduction to the mechanisms of immuno- nity. Instruction and laboratory practice in serology methods used in diagnosis and the study of disease.


The mode of action and assay of anti- microbial agents. Instruction and laboratory practice in testing microorganisms for susceptibility to antimicrobial agents.

130. Epidemiology. (5) W. Lecture: 2 hours. Laboratory: 3 hours. Hayden, Cohen

Instruction in the epidemiology of hospital associated infections, and contagious disease. Practical experience with microbiology laboratory procedures which may be applied to the investigation of an epidemic. Compilation and analysis of clinical laboratory data useful in surveillance of hospital associated infection.

135. Clinical Laboratory Instrumentation. (5) F. Lecture: 2 hours. Laboratory: 3 hours. Hadley, Sedlitz

Instruction and practice in microbiology equipment for detecting the presence of microorganisms and measuring the growth of microorganisms. Practical experience with the data processing equipment and computers utilized in a clinical microbiology laboratory.

MEDICINE

110. Basic Clerkship in Medicine. (1½ per week) F, W, Sp. Prerequisite: Medicine 131A-B. H. L. Smith, Williams, Siegersen

Bedside instruction in history-taking, physical diagnosis, selected topics in general medicine with presentations and demonstrations of relevant cases. This includes instruction in dermatology.


Gold

Clinical anatomy is a clerkship taught in small groups at the bedside. It is designed to provide clinical correlation, region by region, with the material covered in Anatomy 100.

131A-B. Introduction to Clinical Medicine. (1–2 per week) F, W, Sp. Lecture: Anatomy 100, 101, 102, and 105; Biochemistry 100A-B; Microbiology 100; Pathology 100 may be taken concurrently; Radiology 101; Physiology 101 and 102; and Psychiatry 130 or consent of the instructor. E. Brown

An interdepartmental course on the pathophysiological basis of symptoms and signs and the techniques of collecting clinical data, including history-taking, examination of the patient and the use of laboratory tests. Lectures, demonstrations, bedside work, laboratory, conferences, and independent study.

140A. Advanced Clinical Clerkship at UC, SF, and F-A. (1½ per week) F, W, Sp. Prerequisite: Medicine 110. L. H. Smith, Siegersen, Williams, Carbone

Students are assigned patients for study on the staff and private wards. They are supervised by attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences where their patients are discussed.

140B. Clinical Clerkship. (1½ per week) F, W, Sp. Prerequisite: Medicine 110. L. H. Smith, Hayden

Clinical clerkships in off-campus hospitals approved by the Dean and the chairman of the department.


Wood, Jacobs, Cline and Staff

On Clinical Cancer Chemotherapy Service, students work up patients, present them to attending staff and at conferences, do procedures, and write orders under supervision.

140D. Inpatient Medicine of College-Age Patients at CH. (1½ per week) F, W, Sp. Bruyn, Meyer

Students make daily hospital rounds and participate in psychiatry, dermatology, chest diseases, and surgical diagnosis. They attend specialty clinics in radiology and cardiology. They spend six hours each week in individual instruction with a member of the faculty.

140E. Cardiology at PMG. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 or consent of the instructor. Seitz

Students participate in the activities of the Cardiology Unit, with an emphasis on methods of cardiac diagnosis, therapeutics, and electrophysiology.

140F. Cardiology at UC. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 or consent of the instructor. Sokolow

Students work up patients in the clinic and on the wards; attend conferences and seminars; receive instruction in specialized studies including electrocardiography and phonocardiography; and do assigned reading.

140G. Clinical and Physiological Aspects of Pulmonary Disease. (1½ per week) F, W, Sp. Siegersen, Williams, Carbone

Students are assigned patients for study on the staff and private wards. They are supervised by attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences where their patients are discussed.

140H. Gastroenterology. (1½ per week) F, W, Sp. Prerequisite: Medicine 110.

Siegersen, Williams, Carbone

Students become a part of the gastroenterology group and participate in all activities including ward rounds, pulmonary function conferences, and chest radiology conferences. They participate in pulmonary function testing and do assigned reading.

140I. Gastroenterology. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 or consent of the instructor. Schmied

Students work up patients, perform diagnostic tests, work with patients, and submit reports.

140J. Cardiopulmonary Service at MZ. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 or consent of the instructor. Paley

Students work up patients, follow through diagnostic program, perform diagnostic tests, exercise electrocardiograms, cardiac catheterization, and angiographic studies.
Students work up and manage patients under supervision; participate in activities of the Dialysis Center including peritoneal and hemodialysis; attend Renal Clinic, presenting cases and daily rounds; attend seminars, conferences; and observe research activities of the unit.

140.12. Cardiology at PHS. (1/2 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B and 110. Haas

Hyatt

Students are assigned cardiac admissions for work-up and management under supervision. They attend daily rounds, present patients in Cardiology Clinic, and observe Cardiopulmonary Unit procedures including cardiac catheterization and cardiodivation. They are instructed in electrocardiography.

140.13. Clinical Clerkship at PHS. (1/2 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B and 110. Alby

Hyatt, Mason

Students are assigned patients for work-Up and management under supervision. They make daily rounds and present cases, attend seminars, Journal Club, CPC's, Death Conference, and Grand Rounds. Scope of responsibility is similar to that of interns.

140.14. Endocrine-Metabolic Medicine at PHS. (1/2 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of the instructor. Completion of third-year status.

Hyatt, Donaldson

Students work up patients and participate in activities of the Metabolic Service under supervision; attend Metabolic Clinic; present patients there and on endocrine rounds; attend seminars and conferences. Program tailored for participation in research activities if student desires and qualifies.

140.15. Inpatient Medicine at R. (1/2 per week) Su, F, W, Sp. Prerequisite: Third-year student.

Jain

Students at Kaiser Foundation Hospital serve as clinical clerks and examine patients, participate in ward rounds and attend teaching seminars and conferences of the Department of Medicine.

140.16. Hematology at SFGH. (1/2 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

Friedman

Students work up hematology patients; review pertinent clinical laboratory data of problems presented; attend slide rounds; help discuss patients; attend hematology rounds at SF.


Students evaluate patients regarding problems in drug choice, action of drugs, or drug efficacy. They present cases to a staff member for review, participate in daily rounds, conduct directed literature reviews and are exposed to research efforts in the field.

140.18. Gastroenterology at S.F. (1/2 per week) Su, F, W, Sp. Prerequisite: Medicine 110. Brandeis

Students are incorporated into the Gastroenterology Unit. They are assigned consultation patients under supervision, observe upper gastrointestinal endoscopy, and small bowel biopsy. They participate in all rounds and conferences.


Hollenberg

Students shall: work up patients on the wards and in the Coronary Care Unit; attend open heart surgery once a week; assist at D.C. electrical reversion; interpret electrocardiograms and vectorcardiograms; attend rounds and conferences of the Cardiology Service.


Investigation and clinical application of renal tubular reabsorption mechanism and their interrelationship with endocrine mechanisms.


L. H. Smith and Staff

Working experience with an internist on the clinical faculty as he makes rounds in various private hospitals and at the University of California Hospitals. Students present patients in his private office and on house call, does follow-up studies, and reads electrocardiograms.
140.35. Cardiology at SFGH. (1½ per week) F, W, Sp. Prerequisite: Introduction to clinical Medicine 131A-B and consent of the instructor. Abbott

Under close supervision, the student develops a mature approach to clinical cardiology by examining cardiac patients on the wards and in the clinics. Basics of electrocardiography and interpretations are stressed; students attend all seminars and conferences.

150.01. Research in Cardiovascular Physiology at F, 1½ per week) S, F, W, Sp. Prerequisite: Physiology 100, and 101; Biochemistry 100 and 102. Hollenberg

The elective is designed to provide experience with routine physiological measurements, the handling and monitoring of radioisotopes, techniques of tissue culture and various biochemical techniques. Presently the laboratory is engaged with problems of myocardial hypertrophy, cell growth, and protein synthesis.

150.02. Research in Medicine, 1½ per week) S, F, W, Sp. I. H. Smith

Students continue previously initiated research projects under the guidance of faculty members. Programs must be approved by the instructor in charge.

160.02. Clinical Allergy. (1) W, Sp. Prerequisite: Microbiology 100 and Pharmacology 100 and 101. Mustacchi

Seminar course on basic aspects of allergy, supplemented by discussion of assigned clinical material and demonstration of selected diagnostic and therapeutic procedures.

160.04. Basic Nutrition and Health Maintenance. (1-2) Sp. Prerequisite: Biochemistry 100A and Physiology 101 or consent of the instructor. Havel

Weekly seminars are based upon preassigned reading. The digestion and metabolism of major foodstuffs is reviewed systematically and related to the composition and quality of ordinary foods. The relationship of diet to prevention of chronic disease is emphasized.

170.01. The Medical Attitude. (1) F, W, Sp. Prerequisite: Consent of the instructor. Guttinger

Instruction deals with an exploration of the theoretical premises on which medicine rests, of medicine's relationship to other disciplines, of the structure of patient-physician relationship, and of medicine's operational concepts.


Seminars on selected writings and topics of theoretical premises underlying clinical medicine, e.g., history taking and diagnosis.

170.03. Ethical Problems in Medical Care. (2) W, Sp. Prerequisite: Consent of the instructor. Guttinger

Course, partly devoted to formal presentations, partly to panel discussion, deals with such problems as professional and personal bedside problems of medical care, telling the truth, experimentation on human beings, and legalization of euthanasia.

170.04. Fundamentals of Electrocardiography at F, 1½ per week) S, F, W, Sp. Prerequisite: Completion of two years of medical school and Medicine 131A-B. Goldman

Instruction in basic electrophysiologic principles and interpretation of electrocardiograms.

170.05 Fundamentals of Electrocardiography Interpretation at SF. (1) F, W, Sp. Prerequisite: Medicine 131A-B. Rapaport

Review of physical principles of electrocardiography and clinical application of electrocardiographic interpretation.

170.06. Therapeutics. (1) Sp. Prerequisite: Basic pharmacology, physiology, biochemistry, and requirements for completion of first two years of medical school. Melmon

The course is designed to help the student develop a useful approach to the selection and administration of drugs to diseased man and to develop an appreciation of the methods which he can conveniently use to maximize efficacy and minimize toxicity.


An advanced course in electrocardiographic interpretation including an introduction to vectorcardiography.


A one-year research project approved by the Dean and the chairman of the department.

198. Supervised Study in Medicine. (1-5) Su, F, W, Sp. SS. Prerequisite: Consent of the instructor. Smith

Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

199. Laboratory Project in Medicine. (1-5) Su, F, W, Sp. Prerequisite: Consent of the instructor. L. H. Smith and Salen

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

400. Medical Staff Conference. (2-2-2) F, W, Sp. UC Smith, SF Williams, FJ Seienger, SF Williams

Residents prepare and present case histories of patients studied at medical staff conferences including references to the literature, laboratory work, and special studies. Faculty members and visiting professors discuss the cases and present new developments in their respective fields.

403. Interdepartmental Clinical Correlation Course. (4-1-4) F, W, Sp. Interns and residents. UC Smith

A series of discussions are conducted in the various subspecialties of internal medicine. Students take an active part in the presentation and discussion of the problems involved including reference to the literature, clinical demonstrations, and directed student participation.


Seminars on the recent literature in internal medicine, with assigned reading, required reports, and evaluation of presented material by the interns, residents, and faculty.

405. Specialty Seminars. (2-2-2) F, W, Sp. Interns and residents. UC Smith

Seminars are conducted in the fields of gastroenterology, hematology, cardiology, electrocardiography, endocrinology, chest diseases and pulmonary physiology, thyroid diseases, psychosomatic medicine, arthritis and rheumatic diseases, infectious diseases, and radiology. Library research, occasional formal reports and patient presentations are required.

407. Specialty Seminars. (4-4-4) F, W, Sp. SF Williams and Staff

Seminars are conducted in cardiology, hematology, gastroenterology, infectious diseases, metabolic diseases, and pathology involving discussions, required reading, and reports.

408. Laboratory Interpretation. (2-2-2) F, W, Sp. Residents and trainees in cardiology. Sokolow

Seminars (individual instruction) for residents in medicine and trainees in cardiology, presented by cardiac consultants in the interpretation of all electrocardiograms and phonocardiograms taken at University of California San Francisco.


Residents are responsible for the care of patients, under the direction of the attending staff, and participate in student teaching. Third-year, senior, and chief residents render consultation service in the hospitals and outpatient clinics.


Residents are responsible for patient care, under the direction of the attending staff, including history-taking, physical examination, laboratory tests, and consultations. The chief resident, in addition, has certain responsibilities involving the residents. He consults for all other hospital services.

590. Clinical Medicine. (1½ per week) Su, F, W, Sp. Interns. SF Williams, UC L. H. Smith and Staff

Residents rotate through medical wards of Emergency Hospital. Under the supervision of the attending staff, they are responsible for performing such medical duties as consultation and treatment under the established rules and regulations for residents.
the care of patients, history-taking, medical workup, laboratory tests, and consultation.

Clinical Medicine. (15 per week) Su, F, W, Sp. SF Williams

A modified "straight" medical internship consisting of eight to nine months service in general medicine, chest, and the emergency room, with three to four months spent in other hospital services.


Interns are responsible for the care of patients, under the direction of the attending staff, and participate in student teaching.

MICROBIOLOGY

100. Biologic Agents of Disease. (9) Sp. Prerequisite: Biochemistry 100A-B. Javetz

Fundamentals of infection and resistance, immunology, and pathogenesis of diseases caused by microorganisms. Pathogenic bacteria, fungi, viruses, and parasites are presented from the standpoint of biology, medicine, epidemiology, and treatment. Laboratory diagnosis, treatment, and prevention introduces infectious disease management.

101. Biologic Agents of Disease. (7) Sp. Prerequisite: Biochemistry 100A-B. Only students who have had the parasitology portion of Microbiology 100 may take this course. Javetz

Fundamentals of infection and resistance, immunology and pathogenesis of diseases caused by microorganisms. Pathogenic bacteria, fungi and viruses are presented from the standpoint of biology, medicine, epidemiology, and treatment. Laboratory diagnosis, treatment, and prevention introduces infectious disease management.

125. Microbiology. (6) W. Lecture: 4 hours. Laboratory: 4 hours. Javetz and Staff

Morphology and physiology of microorganisms including bacteria, molds, yeasts, and viruses and techniques to study them. Fundamentals of infection and resistance, immunology, microbial genetics, dissection, chemotherapy, biologic products, and epidemiology. Problems in laboratory diagnosis, treatment, and prevention of infectious diseases.

126. Microbiology. (5) W. Lecture: 4 hours. Laboratory: 4 hours. Javetz and Staff

A comprehensive presentation of microorganisms including bacteria, fungi, and viruses; fundamentals of infection and resistance, immunology, disinfection and sterilization and antimicrobial agents; and laboratory studies on indigenous oral flora, and applications of microbiology in industry.

150.1. Research in Microbiology. (15) Su, F, W, Sp. Prerequisite: Microbiology 100 and consent of the instructor. Javetz and Staff

Research in microbiology block elective for fourth-year students.


Description of central experimental aspects of microbial control mechanisms, genetics, and immunology, which are leading to important advances in applied science and medicine. Lectures and discussions for students who wish to become familiar with rapidly moving basic biology.


A study of communicable diseases less frequently seen in western urban communities, but which represent significant problems in many other areas of the world.

190. Medical Microbiology. (5) Sp. Lecture: 5 hours. Javetz and Staff

Lectures and discussions on morphology and physiology of microorganisms, including bacteria, molds, yeasts, viruses, and techniques employed to study them. Fundamentals of infection and resistance, immunology, microbial genetics, chemotherapy, biologic products, and epidemiology.

198. Supervised Study in Microbiology. (1-5) F, W, Sp. Prerequisite: Consent of the instructor. Javetz

Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

199. Laboratory Research in Microbiology. (1-5) F, W, Sp. Javetz

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

203. Immunology. (3) F. Prerequisite: Biochemistry 100 and Microbiology 100. Lecture: 3 hours. Offered in alternate years. Goodman

Structural and functional aspects of antibodies and antigens, including chemical and genetic basis of immunogenicity; structural basis and thermodynamics of antigen-antibody interaction; biochemical characterization and structure of immunoglobulins; immunogenetics; immunocomplex applied to structural studies of macromolecules.

204. Immunobiology. (3) W. Prerequisite: Microbiology 100 or equivalent instruction in basic immunology. Lecture 3 hours. Offered in alternate years. Linusott

An advanced course covering antigen-antibody interactions, with special emphasis on their biological importance; experimental hypersensitivity, transplantation immunology, immunological responsiveness, and the role of the complement system.

206. Pathogenic Fungi. (2) F. Prerequisite: Microbiology 100. Lecture: 2 hours. Hadle

A systematic review of the fungi responsible for human disease, emphasizing pathogenesis, epidemiology, and diagnostic laboratory procedures.

267. Molecular Biology of Selected Bacterial Viruses. (4) Sp. Prerequisite: Microbiology, biochemistry, or consent of the instructor. Lecture: 2 hours. Laboratory: 6 hours. Boyer, Roulland-Dussoix

Molecular biology of certain bacterial viruses will include the genetics and biochemistry of the bacteriophage lambda and related phages. The lecture presentations will be supplemented with laboratory experiments involving many of the current techniques of bacteriophage genetics, biochemistry, etc.

268. Advanced Virology. (3) W. Lecture: 3 hours. Offered in alternate years. Levinson

Physical and chemical characteristics of animal, bacterial, and plant viruses; dynamics of virus multiplication; biochemistry of virus-cell interaction; virus-induced alteration in properties of host cells in several systems; tumor viruses inhibition of viral multiplication by specific agents; approaches to chemotherapy.

269. Research Problems in Immunology. (1-5) F, W, Sp. Prerequisite: Microbiology 203 and its equivalent and consent of instructor. Offered in alternate years. Goodman

Training in the use and application of immunologic methods to research problems. Methods include quantitative precipitin and hapten inhibition techniques, gel-filtration, and immunoelectrophoresis, paper and column chromatography, zone electrophoresis, isotope labeling and radiography of proteins, and density gradients and analytical ultracentrifugation.

270. Cell Biology. (2) F. Prerequisite: College biology and consent of the instructor. Lecture: 2 hours. Offered in alternate years. Levinson

A discussion of recent research on the DNA, RNA, proteins, membranes, and control of avian and mammalian cells. In addition, differentiation, contact behavior, communication, virus infection and carcinogenesis in these cells will be covered.

271. Fundamentals of Microbial Genetics. (3) F. Prerequisite: Consent of the instructor. Lecture: 5 hours. Boyer

A course in the fundamental aspects of microbial genetics covering population genetics, mutation, recombination, complementation, and control mechanisms.

282. Seminar. (1) F, W, Sp. Prerequisite: General microbiology, medical microbiology, and immunology. Presentation of the results of research by investigators from universities, including the University of California, and research laboratories, with extensive discussions.

283. Oral Microbiology. (1) F. Prerequisite: Consent of the instructor. Lecture: 2 hours. Hurst

A seminar course concerned with the role of microorganisms in oral health and disease with emphasis on the ecology of the oral flora.


298. Thesis. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Staff

For graduate students engaged in writing the thesis for the masters degree.

299. Dissertation. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Staff

For graduate students engaged in writing the dissertation for the Ph.D. degree.

MORPHOLOGY

110A. Morphology of Human Dentition. (1) F. Lecture: 1 hour. Prerequisite: Morphology 110A and 115A. Noble

The development and form of the primary and permanent teeth.

110B. Applied Morphology. (1) W. Lecture: 1 hour. Prerequisite: Morphology 110A and 115A. Noble

The application of individual tooth and arch form to interarch relationships.

115A. Morphology of Human Dentition. (2) F. Laboratory: 6 hours. Prerequisite: Morphology 110A to be taken concurrently. Hamaguchi, Nakamura

Study of individual tooth form and relationship to adjacent anatomical structures.
115A. Applied Morphology. (2) F, Laboratory: 6 hours. Prerequisite: Morphology 110A and 115A.

Hamaguchi

The application of individual tooth and arch form to interarch relationships.

NEUROLOGICAL SURGERY

Core Clerkship—Neurology 110. Students serve as clinical clerks in the inpatient and outpatient clinics.

140.01. Clinical Neurological Surgery at UC. (1.15 per week) F, W, Sp, Sr. Prerequisite: Neurology 110 and consent of the instructor.

Wilson

The student will become a member of the house staff attending ward rounds, working up patients, assisting at operations, and taking night call on rotation with a resident.


Wilson

This elective period will accommodate students above second year. Clinical responsibilities will be assigned accordingly. Students may choose to spend any period of time at one of four hospitals (UC, SF, LA, and F, one student per hospital).

180. Supervised Study in Neurosurgery. (1-5) F, W, Sr. Prerequisite: Consent of the instructor.

Staff

Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

199. Laboratory Project in Neurosurgery. (1-5) F, W, Sr. Prerequisite: Consent of the instructor.

Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.


UC Wilson

Residents, under supervision, prepare and present case histories of ward patients including laboratory work, X-ray studies, special investigation, and reference to the literature. Discussion is led by the faculty with participation by visitors.


UC Wilson

Conference includes the discussion of special problems and topics in neurology and neurological surgery relating to case presentations. Members of the house staff and graduate students participate.


UC Wilson, Boldrey

Residents discuss clinicopathological aspects of cases, and their correlation with the literature and special studies. Faculty and visitors discuss developments in related fields. Second-year residents organize conferences and participate in gross dissections on patients from the Neurological Surgery Service.


UC Adams

Recent literature in neurology and neurological surgery is presented. Discussion is by members of the faculty who are in attendance and by visitors from other schools interested in this and related fields.


Second-year residents in laboratory service.

UC Adams, Wilson, Boldrey

Seminars include studies in neuropathology, electromyography, neurophysiology, and investigative neurological surgery. Attendance and participation in irregularly scheduled topical seminars on subjects in neurology, neurological surgery, and related fields also is required.


UC Wilson

Residents, under supervision, are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, and consultations. In addition, the senior resident has certain administrative, teaching, and clinical responsibilities.


SF Hoff

Residents are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examination, and consultations. In addition, the senior resident has certain teaching and administrative responsibilities required by the attending staff.


F.B. Brown

Residents are responsible for examining and caring for patients, attending in surgical procedures, and performing diagnostic procedures under supervision.


J.A. Connolly

Residents are responsible for diagnosis and care of patients in wards and clinics and performance of studies and selected neurological procedures under supervision of the attending staff. They also present patients at conferences and attend seminars and rounds at UC.


SF Hoff

Interns rotate through neurological surgery for a one-year period under the supervision of the attending staff. Residents are responsible for the care of patients, including history-taking, neurological examinations, laboratory tests, diagnostic procedures, and consultation.

NEUROLOGY

Second-Year Coordinated Instruction—Medicine 131A-B. Lecture-demonstrations and section work devoted to the supervised examination of patients.

110. Clinical Clerkship in Neurology and Neurosurgery. (1.15 per week) F, W, Sp, Sr. Prerequisite: Medicine 131A-B.

Fishman, Wilson

Students serve as clinical clerks in the inpatient services and outpatient clinics. Attendance at departmental clinical rounds, seminars, and conferences is expected.

140.01. Advanced Clinical Neurology at UC. (2.5 F, 1.5 W, 1.5 Sp, Sr. Prerequisite: Neurology 110.

Fishman

Students serve as clinical clerks in the inpatient services and outpatient clinics. Attendance at departmental clinical rounds, seminars, and conferences is required. Approval of the chairman is required.

140.02. Extramural Clinical Clerkship. (115 per week) Su, F, W, Sp. Prerequisite: Neurology 110.

Fishman

Clinical clerkship in approved hospitals by special arrangement and approval of the Dean and the chairman of the department.

140.03. Study of Cerebrovascular Disease. (115 per week) Su, F, W, Sp. Prerequisite: Neurology 110.

Yatsu

The Stroke Program at SF offers an opportunity for a comprehensive multidisciplinary approach to the evaluation of stroke patients. Conferences, rounds, and research seminars are held weekly.


Berg

Participation in childhood neurological studies being carried out in the department including work in Coeducational Neurology, Cerebral Palsy, and Developmental Clinic, and visits to special programs for children with neurological handicaps.

150.01. Research in Neurology. (1.15 per week) F, W, Sp, Su. Prerequisite: Anatomy 103.

Fishman

Opportunities for research in one of the departmental laboratories by arrangement with the chairman.

150.02. Neurophysiology. (1.15 per week) F, W, Sp. Prerequisite: Anatomy 103 and Pathology 100.

Asbury

Tissue pathology of diseases of the nervous system will be explored in greater depth in the postmortem room and by gross and microscopic techniques.

150.03. Advanced Neurology (Major Pathways). (1.15 per week) W, Sp. Four-, or twelve-week block elective. Prerequisites: Medicine 110 and Neurology and Neurosurgery 110.

Asbury

Special experience in both clinical neurology and neuropathology is offered by special arrangement. It will include postmortem room experience, case study by neuropsychological techniques, clinical pathologic correlations, and research opportunities.

180. Supervised Study in Neurology. (1-5) F, W, Sp, Sr, SS I-SS II. Prerequisite: Consent of the instructor.

Staff

Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

199. Laboratory Research Project in Neurology. (1-5) F, W, Sp, Sr, SS I-SS II. Prerequisite: Consent of the instructor.

Fishman and Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.


Wilson

Seminars covering selected subjects in the basic sciences relevant to neurology including neuroanatomy, neurochemistry, neuropsychology, and neuropathology.


Berg

Conference includes resident preparation and presentation of patient case histories including reference to the literature, laboratory work, and special studies. Faculty members and visiting professors from other universities discuss new developments in their respective fields.


Fishman

Course involves the presentation and discussion of clinical histories and pathologic findings.
findings in selected cases of neurological interest and histopathological study and discussion of surgical and autopsied specimens from neurologists and neurosurgeons.

Course involves pathologic and clinicopathologic research in various aspects of neuropathology. Specific subjects of research are chosen in conjunction with members of the staff.

Clinical or basic research in various aspects of electroencephalography may be undertaken under supervision. Specific subjects of research are chosen in conjunction with members of the staff.


Clinical and basic research in biochemical and metabolic aspects of neurological disorders. After consultation, assignments to one of the several departmental laboratories will be possible.

Specific projects in experimental pathology of the nervous system may be undertaken by direct arrangement. Techniques include neuropathology, histochemistry, autoradiography, and electron microscopy.

UC Fishman, MacAr; SF Yatsu; F.A. Asbury
Residents are responsible for the care of patients in the wards and outpatient clinic, under the direction of the attending staff, including history-taking, neurologic examination, laboratory tests, special diagnostic and therapeutic procedures, and consultations.

Respir
Residents learn interpretation of electroencephalograms under the supervision of experienced electroencephalographers. They interpret electroencephalograms on patients they have seen during the day and individual instruction is available as required. Instruction is accredited by the Board of Qualification of American Electroencephalographic Society.

454. Clinical Training in Electromyography. (16 per week) Su, F, W, Sp. UC Sumner
Students learn the application of electromyography in the diagnosis of patients seen in the wards and in the outpatient clinic with individual instruction as required.

Residents spend two supervised months in association with the Psychiatric Liaison Service at University of California Hospitals and Veterans Administration Hospital. The program emphasizes the study of psychologic disorders in a general hospital population.

Residents spend three months or more in the Neuropathology Laboratory at LPNI performing supervised autopsies and pathologic studies of brains from neurologic, neurosurgical, and psychiatric patients.

Residents are responsible for the care of patients in the wards and outpatient clinic, under the direction of the attending staff, including history-taking, neurologic examination, laboratory tests, special diagnostic and therapeutic procedures, and consultations.

Course offers experience in the diagnosis and management of children with acute and chronic neurologic disorders. Outpatient clinic is a part of the general neurology clinic. Clinical work is conducted in cooperation with the pediatric department.

Residents learn the basic features of tissue pathology in the nervous system and the principles of clinicopathologic and clinciostatistical correlation.

Resident participate in clinical evaluation of patients in preparation for rounds. Clinical teaching in neuroophthalmology.

Yatsu
Interns rotate through neurology wards and, under supervision of the attending staff, are responsible for the care of patients including history-taking, neurologic examinations, laboratory tests, and diagnostic procedures.
nursing interventions. Students will plan, give, and evaluate care for designated patients of all age groups and differing cultures and in increasingly complex situations.

124B. Nursing Problems in Major Health Interruptions. (8) F, W. Prerequisite: Second-year standing in the School of Nursing or consent of the instructor. Staff

Designed to increase precision in nursing decisions and skills essential to therapeutic nursing interventions. Students will plan, give, and evaluate care for designated patients of all age groups and differing cultures and in increasingly complex situations.

124C. Nursing Problems in Major Health Interruptions. (8) W, Sp. Prerequisite: Second-year standing in the School of Nursing or consent of the instructor. Staff

Designed to increase precision in nursing decisions and skills essential to therapeutic nursing interventions. Students will plan, give, and evaluate care for designated patients of all age groups and differing cultures and in increasingly complex situations.

131. Advances in Health Sciences. (3) W, Sp. Prerequisite: Third-year standing in the School of Nursing or consent of the instructor. Staff

Consideration of advances in the various disciplines within the health sciences as a basis for predicting future nursing roles and professional responsibilities.

134A. Problems Related to Professional Roles in Nursing. (9) F. Prerequisite: Third-year standing in the School of Nursing or consent of the instructor. Staff

Concepts and practice essential for understanding nursing roles in complex situations; participating in nursing care of patients with complicated problems, functioning as a nurse giving comprehensive care, as a team member or leader, and sharing responsibility with auxiliary personnel.

134B. Problems Related to Professional Roles in Nursing. (9) F, W, Sp. Prerequisite: Third-year standing in the School of Nursing or consent of the instructor. Staff

Concepts and practice essential for understanding nursing roles in complex situations; participating in nursing care of patients with complicated problems, functioning as a nurse giving comprehensive care, as a team member or leader, and sharing responsibility with auxiliary personnel.

134C. Problems Related to Professional Roles in Nursing. (9) F, W, Sp. Prerequisite: Third-year standing in the School of Nursing or consent of the instructor. Staff

Concepts and practice essential for understanding nursing roles in complex situations; participating in nursing care of patients with complicated problems, functioning as a nurse giving comprehensive care, as a team member or leader, and sharing responsibility with auxiliary personnel.

153. Nursing Observations in Fluid Imbalances. (3) Sp. Prerequisite: Second-year standing in the School of Nursing or consent of the instructor. Abbey

An exploration of nursing observations directly related to care of patients with body fluid imbalances.

154A. Nursing in School Health Programs. (5) F. Prerequisite: Consent of the instructor. Staff

Concepts essential for understanding objectives, organization, administration, and legal aspects of school health programs and the role of the nurse therein. Correlated experience under supervision in public schools.

154B. Nursing in School Health Programs. (4) W. Prerequisite: Consent of the instructor. Staff

Concepts essential for understanding objectives, organization, administration, and legal aspects of school health programs and the role of the nurse therein. Correlated experience under supervision in public schools.


A course dealing with commonly used drugs with emphasis on classification, use, rationale for choice, mode of action, and significant side effects.

156. Creative Uses of Play with Young Children. (3) W, Sp. Prerequisite: Consent of the instructor. Hardgrove and Staff

A practical introduction to play designed to increase nursing skills in promoting growth, communication, and mental health in young children. Experiences and demonstrations with play materials and techniques used.

157. Nursing Management of Common Pediatric Illnesses. (4§) W. Prerequisite: Consent of the instructor. Dunbar and Staff

Theory related to essential content areas and specific knowledge necessary for professional nurses beginning to function as pediatric nurse practitioners. Emphasis placed on most common illnesses of infancy and childhood.

158. Health Issues in Population Stabilization. (3§) W. Prerequisite: Consent of the instructor. Abbott

Theory and research relevant to social,
155. Clinical Uses of Drugs. (3) F, W, Sp. Prerequisite: Second-year standing in School of Nursing. Takano. A course dealing with commonly used drugs with emphasis on classification, use, rationale for choice, mode of action, and significant side effects.

156. Creative Uses of Play with Young Children. (3) W, Sp. Prerequisite: Consent of the instructor. Lecture: 1 hour. Laboratory: 6 hours. Hardgrove. A practical introduction to play designed to increase nursing skills in promoting growth, communication, and mental health in young children. Experiences and demonstrations with play materials and techniques used.

157. Nursing Management of Common Pediatric Illnesses. (4) W. Prerequisite: Consent of the instructor. Dunbar and Staff. Theory related to essential content areas and specific knowledge necessary for professional nurses beginning to function as pediatric nurse practitioners. Emphasis placed on most common illnesses of infancy and childhood.


159. Health Supervision of Women During the Reproductive Years. (4) F, Sp. Prerequisite: Consent of the instructor. Mann. Theories and concepts of applied obstetric and gynecologic science for maternity nurse associates. Areas included: maternal-fetal-placental unit, common gynecologic problems, hormonal and mechanical contraceptives, and sexual functioning. The health needs of women from adolescence to menopause are included.

160. Health Maintenance in Infancy and Childhood. (4) F, Sp. Prerequisite: Consent of the instructor. Dunbar and Staff. Emphasis placed on broad issues of child health supervision and pediatric nurse practitioner's primary care role in management, with parents, of developmental stresses common in the child-rearing years.

162. Special Problems of the Reproductive Period. (4) W. Prerequisite: Nursing 159 and consent of the instructor. Mann. Content includes theory and concepts of biopsychosocial problems and complications during the reproductive period. Metabolic, infectious, traumatic, and functional disorders will be included.

164. Nursing Care of Children With Deviations in Development. (2-4) F, W, Sp. Prerequisite: Consent of the instructor. Staff. Theory and practice related to prevention, case finding, and care of children with deviations in development including the mentally retarded. Focus on nurse's role as a community resource in promoting optimal development of these children living at home.

180. The UCSF as a Health Care Institution. (2-4) F. W. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 5 hours. Harding, Barnes. Analysis of UCSF as a health care institution. This course will provide students from the various professional schools the opportunity to study collectively current issues in health care in order to relate those issues to their environment.


182A-B. Health Education in Practice. (3-3) W. Sp. Prerequisite: Consent of the instructor. Fleshman. Processes and means of incorporating health education into professional practice: identification of audience, delineation of specific pertinent health concern, and exploration of modes of transmitting health information. Evaluation methods will be explored.

197. Group Independent Study. (1-5) F, W. Sp. Prerequisite: Consent of the instructor. Staff. Groups of two or more collaborate in clinical investigation, and studies of special problems related to nursing and health sciences, under the direction of faculty. Students may select topics for study related to their area of interest.
198. Supervised Study in Nursing. (1-5) W. Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

199. Laboratory Project in Nursing. (1-5) W. Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

200. Problems of Administration in Nursing. (2) F. Prerequisite: Consent of the instructor. Archer
Theories of administration applied to the administration of nursing services or schools of nursing.

Principles of curriculum development. Utilization of these principles as a frame of reference for planning educational programs in schools of nursing and nursing services.

Comparative study and critical analysis of major conceptual models in nursing. Emphasis will be placed on models that are prototypes for the following theoretical frameworks: Systems, symbolic interaction, developmental and adaptation theories.

204A-B-C. Comparative Nursing Administration. (2-3, 2-3, 2-3) F. W. Sp. Prerequisite: Consent of the instructor. Archer, Schutzman, Hill
Comparative analysis of nursing with emphasis on nursing administration in the United States and other selected countries using perspectives from anthropological, educational, historical, organizational, philosophical, and sociological contexts applicable to each country. Particularly recommended for international students.

205. Processes of Supervision. (3-6) W. Sp. Prerequisite: Nursing 201 or Nursing 200 or the consent of the instructor. Lecture: 2 hours. Laboratory: 3-12 hours. Sprowles
A study of the supervisory process, the role of the supervisor, the development of staff, and the principles and practice of supervision in nursing. Observation and laboratory experience in supervision arranged for and guided by the faculty.

206. Microteaching. (4) F. W. Sp. Staff
Analysis of the selected teaching components of reinforcement, stimulus variation, questioning, set induction, and closure utilized in individual and group instruction with application and practice in a microteaching laboratory setting.

207. Research in Teaching. (2-4) F. Prerequisite: Doctoral students only, consent of the instructor. Lecture: 2 hours. Laboratory: 0-6 hours. Kramer
Critical inspection and analysis of research in student, patient, and staff teaching. Opportunity provided to incorporate the findings of research in supervised practice teaching sessions.

208. Emerging Roles in Professional Nursing. (3) Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 3 hours. Sitzman
Examination from historical, sociological, economic, and nursing perspectives of the phenomena surrounding emerging professional nurse roles. Selected examples from student contact with people practicing in emerging roles as well as published descriptions provide bases for exploration.

210A. Family Dynamics, Pathology, and Therapy. (2-4) W. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 0-6 hours. Seminar which focuses on selected concepts and theories of family dynamics, systems, pathology, and treatment. Students will use clinical experiences, observations of families, tapes, etc., in addition to literature on families as a base for discussion.

210B. Family Dynamics, Pathology, and Therapy. (2-4) Sp. Prerequisite: 210A or equivalent. Lecture: 2 hours. Laboratory: 3-6 hours. J. Moore
This course focuses on principles and issues in family therapy, various methods for intervening into family systems, marital therapy, and research in families. Clinical practice with families is required and supervision is provided.

211A. Introduction to Research: Perspectives and Styles of Research and Researchers. (3) F. W. Prerequisite: Elementary statistics or equivalent. Lecture: 2 hours. Laboratory: 3 hours. Staff
Lectures and small group sections which present an overview of the research process including the styles of researchers, the research attitude, logic, ethics, philosophy, and tools of science.

211B. The Research Critique. (3) W. Sp. Prerequisite: Consent of the instructor. Staff
Sections with different substantive focus devoted to the development of the individual nurse as a consumer of research endeavors which will emphasize attitudes, insights, and abilities crucial to the appreciation, appraisal,
and utilization of research in the health sciences.

211C. Research Techniques: Data Analysis. (3–8) Sp. Prerequisite: Nursing 211A and B. Staff
Data collection, analysis, and reporting of a research project.

212A. Physiological Concepts in Nursing. (2–6) F. Prerequisite: Consent of the instructor. Abbey
This course is designed to promote the understanding and application of physiological principles to cross-clinical nursing. A. Basic science considerations. B. Integrative aspects. C. Selected functional modifications.

212B. Physiological Concepts in Nursing. (2–6) W. Prerequisite: Consent of the instructor. Abbey
This course is designed to promote the understanding and application of physiological principles to cross-clinical nursing. A. Basic science considerations. B. Integrative aspects. C. Selected functional modifications.

212C. Physiological Concepts in Nursing. (2–6) Sp. Prerequisite: Consent of the instructor. Abbey
This course is designed to promote the understanding and application of physiological principles to cross-clinical nursing. A. Basic science considerations. B. Integrative aspects. C. Selected functional modifications.

213A. Nursing Measurements and Patient Monitoring. (2–6) W. Prerequisite: Nursing 212A and consent of the instructor. Goldstein Fundamentals of electronics, transducers, and instrumentation directly applicable to the modes of obtaining physiological data from patients.

213B. Nursing Measurements and Patient Monitoring. (2–6) W. Prerequisite: Nursing 213A and consent of the instructor. Abbey Selection and use of instrumentation applicable to patient monitoring, nursing research, and teaching.

215A. Health in the Community. (3–5) F. W. Prerequisite: Consent of the instructor. Seminar: 2 hours. Laboratory: 3 hours. Staff
Exploration of theories, concepts and principles pertaining to the practice of community health nursing with focus on positive health factors and interactions within families, groups, and communities.

215B. Health Care Planning in Communities. (3–5) F. W. Prerequisite: Consent of the instructor. Seminar: 2 hours. Laboratory: 3 hours. Archer Exploration of analytic planning models applicable to community health services. Utilization of the community as a basis for planning and delivery of health care. Emphasis on the role of the community health nurse in health planning.

215C. Community Health Issues. (3–5) Sp. Prerequisite: Nursing 215A or 215B and consent of the instructor. Seminar: 2 hours. Laboratory: 3 hours. Sprott’s Exploration of community health issues previously identified in community health nursing. Opportunity to explore theories and to test their applicability to community and family health.

215D. Strategies of Community Organization. (3–5) Sp. Prerequisite: Consent of the instructor. Archer Exploration of strategies of institutional analysis, community assessment, and methods of community organization and development, enabling nurses to facilitate others’ capacities to define, plan, and meet their own physical, social, and mental health priorities.

216. Maternal Child Nursing. (3–6) F. W. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 3 hours. Mercer Survey of major phenomena utilizing concepts, theories, and laboratory experiences within child-bearing and child-rearing: pregnant couple, enlarging family, mother-child couple, progressing to evolving multiplicity of total family interactions, and life experiences in health and illness.

217. The Child and Illness. (3–6) F. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 3 hours. Tesler Theory and practice related to the effect of illness and hospitalization on the young child and its family. Emphasis will be on the nurse’s role in minimizing trauma and fostering growth.

218. Maternal Identity: Role Transition. (2–5) Sp. Lecture: 2 hours. Laboratory: 0–3 hours. Highley Role change, as dramatized by maternal role identity, will be used to examine transition as a lifelong developmental construct. Patient data will be utilized to examine theoretical concepts and generate new theory.

219. Nursing Care of Acutely Ill Child. (3–6) W. Prerequisite: Consent of the instructor. Tesler, Ward Study of the nursing care of the acutely ill child. Theory and practice focus on exploration of the pathophysiological processes and their nursing management. The students will employ the problem-oriented framework to assess and manage patient problems.
Exploration of community health issues previously identified in community health nursing. Opportunity to explore theories and to test their applicability to community and family health.

216. Maternal-Child Nursing. (3) F. Prerequisite: Consent of the instructor.
Highley
Survey of major phenomena utilizing concepts, theories, and laboratory experiences within childbearing and childrearing: pregnant couple, matrix of enlarging family starting with mother-child couple progressing to evolving multiplicity of total family interactions and life experiences in health and illness.

217. The Child and Illness. (3) F. Sp. Prerequisite: Consent of the instructor. Tesler
Theory and practice related to the effect of illness and hospitalization on the young child and its family. Emphasis will be on the nurse's role in minimizing trauma and fostering growth.

Highley
Role change, as dramatized by maternal role identity, will be used to examine transition as a lifelong developmental construct. Patient data will be utilized to examine theoretical concepts and generate new theory.

220. Advanced Seminar in Nursing Research. (3) F, W. Prerequisite: Nursing 211A and B, or equivalent and consent of the instructor.
Staff
A seminar intended for doctoral students to discuss methods and problems in current nursing research.

222A-B. A Survey of Modern Psychiatric Thought. (5-3) F. W. Prerequisite: Consent of the instructor.
Staff
Theoretical models from selected schools of psychiatric thought will be presented and applied to clinical material. Intercultural, interpersonal, and social frameworks will be reviewed. Application of theory to practice will be emphasized around selected readings, case material, tapes, and films.

223. Introduction to Community Mental Health Theory and Practice. (3) W. Prerequisite: Consent of the instructor. Moore
Provides comprehensive introductory information regarding evolution of the community mental health movement, provision made for community mental health programs, operation of existing centers, roles of paraprofessional as well as professional nurses, and the need for team collaboration.

224. Current Trends in Group Psychotherapy. (3) Sp. Prerequisite: Nursing 243 and 244 or consent of the instructor. White
Seminar focusing in depth on the theoretical bases and implementation of role playing, psychodrama, and gestalt psychotherapy in the group setting by the psychiatric nurse. Designed for nurses desiring advanced preparation in group psychotherapy.

J. Moore
Advanced seminar on psychotherapeutic nursing process, emphasizing communication theory and skills, learning theory, interview structures and processes, language and thought disorders. In laboratory, students will apply theories principles of therapy, and behavioral change with patients demonstrating a range of psychopathology.

226. Nursing in Long-Term Illness. (3) F, W. Sp. Prerequisite: Consent of the instructor.
Hallberg
Intensive study of problems related to long-term illness. Explorations of the interrelationship of various cultural, psychosocial, and pathophysiological factors involved in continuing health problems. Field experience included.

227A-B. Seminar in Psychological Approaches to Comprehensive Nursing Care. (3-5) W, Sp. Prerequisite: Nursing 223 or equivalent and consent of the instructor. Staff
Study of psychological aspects of care which synthesizes components of the clinical specialties in nursing and concepts of biological and behavioral sciences and the humanities. Study of psychiatric nursing theory as it can be applied to practice in nonpsychiatric settings.

228. Communications -- Theoretical and Philosophical. (2-4) F. W. Sp. Prerequisite: Consent of the instructor.
A. Davis
The concept of communication has become one of the overlapping areas in a number of disciplines. This course examines research studies, polemical essays, and philosophical writings that have made the concepts and problems of human communication central to their investigation.

229. Crisis Intervention. (2-4) W. Sp. Prerequisite: Consent of the instructor.
Staff
A two-hour seminar to discuss innovative uses of crisis intervention in selected nursing areas. Focus on underlying theory; e.g., Lindemann, Erickson, Harris, Lazarus, and Caplan. Special emphasis on application in the community.
230. Femininity and Sexuality. (5) W. Sr. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 3 hours. Zilar, Murphy

Theories and concepts of femininity, masculinity, and sexuality throughout the life cycle. Explores the wide range of human sexual expressions, behaviors, and dysfunctions. Focuses on better understanding of self and others to facilitate more effective nursing interventions.

231A. Nursing Administration. (4) F. Prerequisite: Consent of the instructor. Staff

Advanced study in the theory and practice of nursing administration in schools of nursing or nursing services.

231B. Nursing Administration. (2) W. Prerequisite: Nursing 231A. Staff

Advanced study in the theory and practice of nursing administration in schools of nursing or nursing services.

232A. Dimensions of Leadership. (2-4) F. Consent of the instructor. Lecture: 2 hours. Laboratory: 0-6 hours. Bailey

Overview of concepts, theories, principles, and research studies relative to leadership and organizational processes such as group dynamics and structure. Focuses on systematic analysis of decision processes related to planned change in health-care services. Laboratory includes computer simulation.

232B. Dynamics of Leadership. (2-4) W. Prerequisite: Nursing 232A or consent of the instructor. Lecture: 2 hours. Laboratory: 0-6 hours. Bailey

Analysis of interactive variables and functional relationships of leadership characteristics of the leader, follower, and health-care environment. Focuses on ideas, theories, and research related to leader behaviors, styles, and strategies. Laboratory includes computer-simulated problem solving.

232C. Problems in Leadership. (2-4) Sp. Prerequisite: Nursing 232A and B, or consent of the instructor. Lecture: 2 hours. Laboratory: 0-6 hours. Bailey

Seminar focuses on analysis of selected problems and case studies on creative management and utilization of human resources in health services. Application and testing of ideas, principles, models, and theories related to leadership roles, decision making, and planned change.

233. Coping Styles of Children. (3) W. Prerequisite: Consent of the instructor. Dunbar

Examination and assessment of individual coping styles in young children. Theoretical framework based upon Murphy, Lazarus, Menninger, and others. Laboratory data will be used to explore nursing interventions relating to stress periods and coping patterns in children.

234. The Threat of Death in Clinical Practice. (3) F. W. Prerequisite: Consent of the instructor. Lovenberg

Seminar providing opportunity for discussion about multiple issues which come into play when adult patients face death. Discussion will focus on meaning of dying from perspective of persons undergoing the experience and on problems of health professionals when patients are dying.

235. Expectant Parent Group Education. (3) F. W. Sr. Prerequisite: Consent of the instructor. Abbott

Theoretical sessions related to methodology and techniques of conducting expectant parent group discussions. Laboratory experience as group leaders. Seminar discussion of the application of theories and principles of group process to student experience.

237. Survey of Child Development. (3) F. W. Prerequisite: Consent of the instructor. Waechter

Survey of the major theories and research findings dealing with normal physical, intellectual, and emotional development in childhood and adolescence.

238A. Development of the Infant and Preschool Child. (2-4) W. Prerequisite: Consent of the instructor. Waechter

Exploration of the major theories and research findings dealing with the physical, intellectual, and emotional development of the child from birth to school age.

238B. Development in Middle Childhood. (3) W. Prerequisite: Consent of the instructor. Waechter

Exploration of the relevant theories, literature, and research findings dealing with normal cognitive, emotional, and social development during the elementary school years.

238C. Adolescent Development. (3) Sp. Prerequisite: Consent of the instructor. Waechter

Exploration of relevant theory, literature, and research findings dealing with normal development during the adolescent period.

239A. Care of Patients with Pulmonary Problems. (5) F. Prerequisite: Consent of the instructor. Staff

A comprehensive study of the nursing care of patients with pulmonary problems. Examination of the physiological concepts necessary to understanding the patient and the nursing problems. Exploration of the theoretical basis for nursing decisions and nursing action.

239B. Care of Patients with Pulmonary Problems. (5) W. Prerequisite: Consent of the instructor. Staff

A comprehensive study of the nursing care of patients with pulmonary problems. Examination of selected theories and research from the behavioral sciences relevant to the care of these patients. Identification of legislative, ecological, and socioeconomic issues influencing health-care delivery.

239C. Care of Patients with Pulmonary Problems. (5) Sr. Prerequisite: Consent of the instructor. Flood

Investigation of nontherapeutic, unwanted physiologic effects of selected nursing interventions commonly with patients with cardiopulmonary dysfunctions. Clinical laboratory included.

240. Physical Assessment of Cardiopulmonary Status. (5) F. W. Prerequisite: Consent of the instructor. Flood

Intensive study of the criteria, methodology, and principles utilized in physical assessment of cardiopulmonary status as they apply to the nursing assessment of adults in health and illness. Observation and interpretation of patient data in the clinical laboratory.

242. Psychophysiological Concepts in Action. (3) F. W. Prerequisite: Consent of the instructor. Waechter

In-depth psychophysiological exploration of concepts of anxiety, stress, body image, and adaptation as they relate to and influence nursing practice.

244. Theories of Group Psychotherapy. (2-4) W. Prerequisite: Nursing 232B or consent of the instructor. White

Theories of group psychotherapy based on psychoanalytic, interpersonal and communication theories pertinent to the practice of group psychotherapy by nurses. Exploration of differing models of therapy, basic principles and techniques of group therapy, and role of psychiatric nurse as leader.

245A-B-C. Young Adult Health. (5-5-5) F. W. Sr. Prerequisite: Consent of the instructor. Fleshmann

Cross-clinical exploration into defining a new population group category, discovery of pertinent theories, and delineation of health issues.

246. Detectors to Mothering. (5) W. Prerequisite: Consent of the instructor. Staff

Examination and assessment of individual relationships, adaptive tasks, and environmental and interpersonal situations interrupting healthy development of mothering. Implications for nurturance and nursing role.

247A-B-C. Longitudinal Studies: Child-Bearing Child-Rearing. (1-2-1-2-1-2-1) F. W. Sr. Prerequisite: Consent of the instructor. Waechter

Longitudinal study and appraisal of a developing family. Theory for a developing (loop) framework including identification of critical periods, stress, and adaptation.

248. Group Independent Study. (1-5) F. W. Sr. Prerequisite: Consent of the instructor. Staff

Groups of two or more collaborate in clinical investigations, and other studies of special problems in nursing and health sciences under the direction of faculty. Students may select areas related to their long-term interests and future research or clinical program.

249. Independent Study. (1-5) F. W. Sr. Prerequisite: Consent of the instructor. Staff

Individual study with emphasis on special problems in nursing. Students may select areas for study which are related to their area of interest or future goals.

250. Research. (1-8) F. W. Sr. Prerequisite: Admission to doctoral study and consent of the instructor. Staff

250A. Research in Human Communication. (3) W. Sr. Prerequisite: 211A or equivalent. Davis

Seminar to examine selected research focusing on human communication. Such research topics as interaction, social context, and language will be explored to understand problems encountered in human communication research.

261. Introduction to Computer Instruction. (2) Sp. Prerequisite: Open to all graduate students. Nielsen, Bailey, Kamp

Concepts, principles, and methods of computerized instruction. Laboratory experiences provided for students to design and write interactive teaching programs.

265A-B-C. Advanced Studies in Community Health Nursing. (4-4-4) Yr. Prerequisite: Consent of the instructor. Staff

Study and analysis of research implementing current theories and concepts; formulation of hypotheses for Community Health Nursing; synthesis of knowledge from behavioral and biological sciences, exploration of innovations, search for significant dimensions of nursing care.
260A. Research Conceptualization. (3-5) W. Prerequisite: 211A or consent of the instructor.
Kramer
Discussion and practice in research problem formulation and design selection for producers of research. Core classes and small group sessions organized around students' interests.

260B. Research Implementation. (3-5) Sp. Prerequisite: 260A or consent of the instructor.
Kramer
Data collection, analysis, and reporting of a research project, or of some aspect of a research project, such as tool construction, or validity, or reliability studies.

275A. Community Mental Health Nursing. (2-4) W. Prerequisite: Consent of the instructor.
An intensive study of theory and practice underlying primary, secondary, and tertiary prevention and its applicability to nursing care of patients in community systems dealing with emotional and psychiatric disorders.

275B. Community Mental Health Nursing. (2-4) Sp. Prerequisite: Consent of the instructor.
Intensive study of innovative approaches to intramural and extramural continuous nursing care in traditional or newly developing health care delivery systems.

275D. Advanced Community Mental Health Nursing. (2-4) F. Prerequisite: Masters degree in Psychiatric or Community Health Nursing and the consent of the instructor.
Intensive study of selected political, economic, and social issues which affect the community mental health movement.

275E. Advanced Community Mental Health Nursing. (2-4) W. Prerequisite: Masters degree in Psychiatric or Community Health Nursing and the consent of the instructor.
Intensive study of community participation and policy formation in community mental health programs and study of theory underlying indirect services.

276A. Psychiatric Nursing with Children and Youth. (2-4) F. Prerequisite: Consent of the instructor.
Comprehensive study of fundamental theory and concepts of psychiatric nursing with children and youth; focus on the two-person relationships. Child psychiatric majors receive supervised laboratory experience and earn three or four units. Others receive no supervised experience for two units.

276B. Group Counseling with Children and Youth. (2-4) F. Prerequisite: Consent of the instructor. Nursing 276A is not prerequisite.
Pothier
A study of the fundamental theory and concepts of group counseling with children and youth. Child psychiatric majors receive supervised laboratory experience and earn three or four units. Others receive no supervised experience for two units.

276C. Behavior Modification with Children and Youth. (2-4) F. Prerequisite: Consent of the instructor.
Pothier
A study of the theory and practice of behavior modification including positive and negative reinforcement, extinction, punishment and modeling. Child psychiatric majors receive supervised laboratory experience and earn three or four units. Others receive no supervised experience for two units.

280. Thesis or Comprehensive Examination. (9) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the thesis for the masters degree or taking a comprehensive examination required for the masters degree.

Staff
For graduate students engaged in writing the dissertation for the Doctor of Nursing Science (DNS) degree.

401. Teaching Residency. (4-12) F, W, Sp. Prerequisite: Consent of the instructor.
Practice: 12-56 hours.
Staff
Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

402. Administration Residency. (4-12) F, W. Sp. Prerequisite: Consent of the instructor.
Practice: 12-56 hours.
Staff
Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

403. Consultation Residency. (4-12) F, W. Sp. Prerequisite: Consent of the instructor.
Practice: 12-56 hours.
Staff
Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

404. Clinical Residency. (4-12) F, W. Sp. Prerequisite: Consent of the instructor. Practice: 12-56 hours.
Staff
Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

405A-B-C. Family Therapy. (4-4-4) F, W. Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 6 hours.
Handelman
Theory and practice of conjoint family therapy: a study of methods, processes, and techniques of psychotherapy with a total family. Case presentation, observation of families in therapy, intensive discussion, and other media for clinical experience for two units.

406A-B-C. Advanced Psychiatric Nursing of Children and Youth. (4-6) F, W, Sp. Prerequisite: Child Psychiatric Nursing 276A/B-C or equivalent. Consent of the instructor.
Pothier, Pandur
In-depth application of theory of psychiatric nursing with children and youth in a variety of settings.

407A-B-C. Advanced Clinical Practice in Community Mental Health Nursing. (2-4) F, W. Prerequisite: Post-masters status and consent of the instructor.
Staff
Opportunity to apply theory, concepts, and principles of community mental health nursing and evaluate results to further skills and extend clinical expertise.

NUTRITION

130. Food and Nutrition. (3) W. Lecture: 1 hour. Zipkin
A review of the essentials of human nutrition including the energy aspects, the carbohydrates, fat, proteins, minerals, and vitamin requirements of the diet. Several seminars are devoted to methods for an appraisal of the dietary habits of clients.

160. Foods and Nutrition. (2) F. Prerequisite: Biochemistry 170.01. Lecture: 1 hour. Laboratory: 3 hours. Yinon
Basic practical aspects of nutrition including diet evaluation, obtaining diet histories, nutrition education, etc. Panel discussions of pertinent topics in nutrition will be included.

180. Survey of Dietary Patterns in Contemporary Society. (2) F. Sp. Prerequisite: Consent of the instructor. Newton
Survey of dietary patterns currently in practice with examination and evaluation of their place in cultural, social, economic, philosophic, and scientific perspectives. Attention will be directed to such issues as vegetarian regimes, weight reduction programs, etc.

298. Thesis. (9) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Greenberg
For graduate students engaged in writing the dissertation for the masters degree.

299. Dissertation. (9) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Greenberg
For graduate students engaged in writing the dissertation for the Ph.D. degree.

OBSTETRICS & GYNECOLOGY

Basic principle and fundamental techniques in obstetrics and gynecology discussed in series of seminars, case discussions, and teaching clinics. Students have practical experience in clinics, wards, delivery room, and operating room under direct supervision.

140.01. Clinical Clerkship. (1½ per week) Su, F, W. Sp. Prerequisite: Obstetrics and Gynecology 110. Page
Clinical clerkship in approved hospitals by special arrangement and approval of the Dean and chairman of the department.

140.03. Obstetrics and Gynecology Clerkship at C. (1½ per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110. Webb
Four-week block elective (or longer). Students may elect clerkships in obstetrics or gynecology, or both.

Students participate in the following obstetric clinics: Therapeutic abortion, tumor follow-up, obstetrical medicine, infertility, amenia in pregnancy, and family planning.

140.05. Gynecologic Endocrinology. (1½ per week) F, W, Sp. Prerequisite: Obstetrics and Gynecology 110. Goldman
Students will attend gynecologic endocrine clinic and other endocrine clinics of choice and participate in tutorial seminars.

140.06. Obstetrics and Gynecology Clerkship at SR. (1½ per week) Su, F, W, Sp. Obstetrics and Gynecology 110. Goldstein
This course will be individually structured by the instructor for each student with emphasis on areas of interest and need for in-depth exposure.

140.07. Senior Clerkship in Obstetrics and Gynecology. (1½ per week) W. Prerequisite: Core clerkship in obstetrics and gynecology.
Senior clerkship (acting internship) with two weeks assigned to gynecology and two weeks assigned to obstetrics. Opportunity to apply theory and concepts, and skills in the work setting under the supervision of a preceptor.
125. Applied Dental Morphology and Physiology of Occlusion. (1) Sp. Lecture: 1 hour. Prerequisite: Occlusion 125 to be taken concurrently.

Doiglass

A joint lecture and discussion series on the relationship of occlusion to the clinical phases of dentistry.

126. Operative Dentistry. (1) F. Laboratory: 2 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing laboratory techniques and materials.

127. Clinical Dentistry. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing clinical techniques and procedures.

128. Advanced Operative Dentistry. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing advanced clinical techniques and procedures.

129. Orthodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing orthodontic techniques and procedures.

130. Oral Medicine. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral medicine and related topics.

131. Oral Surgery. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral surgery and related topics.

132. Advanced Operative Dentistry. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing advanced clinical techniques and procedures.

133. Oral Pathology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral pathology and related topics.

134. Oral Radiology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral radiology and related topics.

135. Periodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing periodontics and related topics.

136. Orthodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing orthodontic techniques and procedures.

137. Oral Medicine. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral medicine and related topics.


Doiglass

A laboratory course emphasizing oral surgery and related topics.

139. Advanced Operative Dentistry. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing advanced clinical techniques and procedures.

140. Oral Pathology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral pathology and related topics.

141. Oral Radiology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral radiology and related topics.

142. Periodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing periodontics and related topics.

143. Orthodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing orthodontic techniques and procedures.

144. Oral Medicine. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral medicine and related topics.

145. Oral Surgery. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral surgery and related topics.

146. Advanced Operative Dentistry. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing advanced clinical techniques and procedures.

147. Oral Pathology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral pathology and related topics.


Doiglass

A laboratory course emphasizing oral radiology and related topics.

149. Periodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing periodontics and related topics.

150. Orthodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing orthodontic techniques and procedures.

151. Oral Medicine. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral medicine and related topics.

152. Oral Surgery. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral surgery and related topics.

153. Advanced Operative Dentistry. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing advanced clinical techniques and procedures.

154. Oral Pathology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral pathology and related topics.

155. Oral Radiology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral radiology and related topics.

156. Periodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing periodontics and related topics.

157. Orthodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing orthodontic techniques and procedures.

158. Oral Medicine. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral medicine and related topics.

159. Oral Surgery. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral surgery and related topics.

160. Advanced Operative Dentistry. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing advanced clinical techniques and procedures.

161. Oral Pathology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral pathology and related topics.

162. Oral Radiology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral radiology and related topics.

163. Periodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing periodontics and related topics.

164. Orthodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing orthodontic techniques and procedures.

165. Oral Medicine. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral medicine and related topics.

166. Oral Surgery. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral surgery and related topics.

167. Advanced Operative Dentistry. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing advanced clinical techniques and procedures.

168. Oral Pathology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral pathology and related topics.

169. Oral Radiology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral radiology and related topics.

170. Periodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing periodontics and related topics.

171. Orthodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing orthodontic techniques and procedures.


Doiglass

A laboratory course emphasizing oral medicine and related topics.


Doiglass

A laboratory course emphasizing oral surgery and related topics.

174. Advanced Operative Dentistry. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing advanced clinical techniques and procedures.

175. Oral Pathology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral pathology and related topics.

176. Oral Radiology. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral radiology and related topics.

177. Periodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing periodontics and related topics.

178. Orthodontics. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing orthodontic techniques and procedures.

179. Oral Medicine. (1) F. Laboratory: 8 hours. Prerequisite: Operative Dentistry 119.

Doiglass

A laboratory course emphasizing oral medicine and related topics.


Doiglass

A laboratory course emphasizing oral surgery and related topics.


455. Fourth-Year Residency. (1½ per week) Su, F, W, Sp. UC Hogan Fourth-year residency taken at UC or at any approved institution subject to the approval of the department chairman and the Dean.


460. Clinical Ophthalmology. (1½ per week) Su, F, W, Sp. SF Goodner Interns, under supervision of the attending staff, are responsible for patient care in wards and in the follow-up clinic, including diagnostic studies and consultation. This rotation is combined with patient-care assignments in the Otolaryngology Service.

ORAL BIOLOGY


126. Oral Biology. (3) F. Lecture: 4 hours. Laboratory: 4 hours. Prerequisite: Anatomy 118B–C. Christie and Staff Introduction to oral biology correlating morphology, chemistry, function of dental and parodental tissues. Topics include head and neck embryology, enamel, dentin, cementum, pulp and pulpal disease, dental caries, dental anomalies, tooth eruption, periodontal and periodontal disease, oral mucous membranes.

127. Introduction to Oral Pathology. (3) W. Lecture: 2 hours. Laboratory: 3 hours. Prerequisite: Oral Biology 126. Hansen and Staff Correlation of clinical oral pathology with histologic changes. Emphasis is placed on the microscopic and laboratory interpretation of cellular, tissue, and chemical alterations.


130B. Oral Biology. (0–2) F, W, Sp. Lecture and clinic: 2 hours. Prerequisite: Oral Biology 120, 126, and 127. Chinn, Casswell and Staff Group rotation through two five-week sessions: (1) clinical diagnosis—patient presentation entailing history-taking, examination, diagnosis, treatment, and follow-up; (2) medical rotation to internal medicine and physical diagnosis.

130A–B. Clinical Pathology Conference. (1) F, W. Sp. Lecture: 1 hour. Prerequisite: Oral Biology 120, 126, and 127. Taylor Participation in the Temporomandibular Joint Clinic, applying knowledge of history-taking and differential diagnosis utilizing such diagnostic techniques.

135. Diagnostic Oral Pathology. (1–4) F, W, Sp. Lecture: 3–5 hours. Prerequisite: Diagnostic Radiology 1W0. Prerequisites: Fourth-year standing and approval of the instructor. Hansen and Staff The advanced dental student participates in the activities of the Oral Pathology Diagnostic Laboratory. Emphasis is placed on diagnosis of oral disease and the correlation of clinical and histopathological findings. Limitation is placed on each student to a maximum of two weeks.

136. Introduction to the Biological Sciences. (1) SS. Lecture, laboratory, demonstration: 5 hours (3 weeks). Christie Introduction to the biological sciences taught in the first year in dentistry (anatomy, biochemistry, physiology). This course includes one-half day per week orientation to the campus.

189.O. Oral Medicine. (1) F, W, Sp. Clinic: 3 hours. Prerequisite: Oral Medicine 136A–B, C, and consent of the instructor. Ware, Silverman and Staff Participation in the Oral Medicine Clinic: application of knowledge of history-taking and differential diagnosis; utilize various diagnostic techniques such as biopsy, cytology, and interpret clinical pathology laboratory tests; interpret results, prescribe treatment and follow-up; hospital rounds and weekly seminar.

199. Laboratory Project in Oral Biology. (1–5) F, W, Sp. A laboratory research project under direction of a member of the faculty with the approval of the chairman of the division.


266. Seminar. (1–4) F, W, Sp. Seminar: 1 hour. Silverman A wide scope of selected topics related to oral biology are presented with emphasis on basic and applied research methodology, pertinence of problems, significance of findings, and critical evaluation of data.

287. Oral Biology. (1–4) F, W, Sp. Silverman Advanced considerations in the field of histopathology. Applications of newer techniques and concepts for a better understanding of the oral cavity in health and disease will be made. Etiology, diagnosis, and therapeutics will be discussed.

299. Biology of Connective Tissue. (2) Pr. Prerequisite: Biomedical Chemistry 207 or consent of the instructor. Lecture: 2 hours. Bhatnagar A seminar course in connective tissue biology, concerned mainly with the development, differentiation, and pathology of connective tissues; including such topics as regulatory controls of connective tissue macrophages, fibrosis, wound healing, inflammation, tissue destruction, and selected genetic disorders.

in research in oral biology in a systematic manner. Current literature will be critically reviewed by students under faculty supervision, or by faculty or guest lecturers.


Staff


Staff

Practice in teaching in a course in oral biology under the supervision of the instructor in charge.


A wide spectrum of selected topics related to oral biology are presented with emphasis on basic and applied research methodology, pertinence of problems, significance of findings, and critical evaluation of data.


Lectures and seminars on diseases of the oral regions. Disease entities are studied from a clinical, oral histochemical, and pathological viewpoint with emphasis on etiology and pathogenesis.

408I. Oral Medicine. (1) F, W, Sp. Clinic: 3 hours. Prerequisite: Dental degree and consent of the instructor.

Ware, Silverman and Staff

Participation in the Oral Medicine Clinic applies knowledge of histology-taking and differential diagnosis utilizing various diagnostic techniques, such as biopsy, cytology, and certain clinical pathology laboratory tests: interpret results; prescribe treatment and follow-ups; hold a didactic and weekly seminars.

408II. Oral Medicine. (1) F, W, Sp. Clinic: 3 hours. Prerequisite: Dental degree and consent of the instructor.

Wase, Taylor and Staff

Participation in the Temporomandibular Joint Clinic applying knowledge of histology-taking and differential diagnosis, utilizing such diagnostic techniques as laminographic X rays, histological analysis, and other specific joint tests; interpret results; prescribe treatment; and follow-up with patient reviews.

ORAL DIAGNOSIS


This introduction to concepts of dental health and disease and a recognition of these through a multidisciplinary clinical orientation program.

130. Oral Diagnosis and Treatment Planning. (1) F, W, Sp. Seminar: 10 hours per year. Prerequisite: Third-year standing. Braly and Staff

All aspects of examination and diagnosis as they apply to the practice of dentistry will be presented and discussed. Experience in treatment planning will be stressed.

130I. Oral Diagnosis Rotation. (1) F, W, Sp. Clinic: Block Rotation: 27 hours. Prerequisite: Third-year standing in oral diagnosis. Braly and Staff

Clinical experience and small group instruction is provided in oral diagnosis, emergency dental care, clinical photography, and roentgenologic interpretation.


Continuation of Oral Diagnosis I.

149II. Oral Diagnosis Rotation. (1) F, W, Sp. Clinic: Block Rotation: 27 hours. Prerequisite: Fourth-year standing in oral diagnosis. Braly and Staff

Continuation of Oral Diagnosis I.

ORAL ROENTGENOLOGY

121. Roentgenologic Interpretation. (1) Sp. Lecture: 1 hour. Parks

The lectures cover basic theoretical knowledge of the use of X ray as an important diagnostic aid in dental practice in preparation for further learning the actual skill of taking anatomically accurate dental X rays and their interpretation.

130. Roentgenology. (1) F. Labora-tory rotation: 24 hours. Prerequisite: Oral Roentgenology 121. Parks


This course covers essentially the same material as Oral Roentgenology 120, but is designed to meet the special needs of dental hygiene students.

160B-C. Oral Roentgenology. (2) W, Sp. Laboratory and Clinic: 3 hours. Parks

Oral roentgenology for dental hygiene students.


A continuation of Oral Roentgenology 121 and 135. Enrollment is subject to the approval of the Dean or the student's faculty advisor.

170. Laboratory Project in Oral Roentgenology. (1-6) F, W, Sp. Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the section.


Advanced oral roentgenology.

ORAL SURGERY

130A. B-C. Oral Surgery. (1) Yr. Prerequisite: Anatomy 117A-B and Microbiology 126. Lecture: 1 hour. Hubeck and Staff


140. Oral Surgery. (3) F. Lecture: 1 hour. Prerequisite: Oral Surgery 130A-B-C. Hubeck and Staff

141. Medical Emergencies. (2) F, W, Sp. Seminar, demonstration, and participation: 6 hours rotation. One half of the fourth-year class is registered each quarter. Klein

Evaluation and treatment of medical emergencies that might be encountered in the dental office. Demonstration and student participation in cardiopulmonary resuscitation. Discussion of emergency drugs and their clinical application.


170. Surgical Orthodontics. (2) W. Seminar: 2 hours. Prerequisite: Enrollment in postdoctoral specialty program in orthodontics or oral surgery. Ware

The course explores the various facial and occlusal deformities that justify combination surgery and orthodontic treatment. The student will be assigned a topic, the necessary library review, and present a seminar under direction of the instructor.

170A-B-C-D. Applied Surgical Anatomy. (1-1-1-1) F, W, Sp. Prerequisite: Limited to residents in oral surgery program. Laboratory: 5 hours. Courage

Relationship of gross anatomical structures of the head and neck are studied during laboratory dissection. Emphasis will be placed on understanding of cadaver dissection findings to diagnosis and operating room surgery.

175. Oral Surgery. (10) F. Prerequisite: Limited to oral surgery intern. Hospital and Clinic: 90 hours. Hubeck and Staff

Principles of surgery and local anesthesia as related to the mouth and clinical operations on patients.


Hubeck and Staff

Continuation of Oral Surgery 175.

175C. Oral Surgery. (12) F. Seminar: 2 hours. Hospital and clinical practice: 12 hours. Prerequisite: Limited to oral surgery residents.

Hubeck and Staff

Continuation of Oral Surgery 175.

175D. Oral Surgery. (10) F. Hospital and clinical practice: 24 hours. Prerequisite: Limited to oral surgery residents.

Hubeck and Staff

Hospital procedure, ward rounds, and clinical practice in several hospitals; treatment of jaw fractures, occluso-vestibular, cellulitis, and other complicated conditions. Attendance is required at the tumor clinic and in the experimental surgery training program.


Hubeck and Staff

Continuation of Oral Surgery 175.


Hubeck and Staff

Continuation of oral surgery. Certain periods each week devoted to supervised instruction of undergraduate students.


Hubeck and Staff

Continuation of Oral Surgery 175D.
Course 213

189.01. Advanced Oral Surgery Clinic. (1-6) W. Sp. Prerequisite: Oral Surgery 118 and 119. Clinic Variable. Huerbsch and Staff Additional clinical experience for students who have completed all clinical requirements.


Heubsch and Staff Limited experience in hospital oral surgery to include assisting and performing oral surgery procedures. Aspects of premedication as related to the ambulatory patient. Orientation in hospital deconum and operating room procedures.

189.4. Laboratory Project in Oral Biology. (1-5) F, W, Sp. Laboratory research project under direction of a member of the faculty with the approval of the chairman of the division.


Course is designed to teach the dental intern exodontia procedures under close supervision in the oral surgery clinic. The trainee takes responsibility for care of the oral surgery patient including preoperative evaluation, surgery planning, and postoperative care.

OROFACIAL ANOMALIES

170. Orofacial Anomalies. (2) F. Lecture: 2 hours; Laboratory: 1 hour. Lawless Normal development of speech, consideration of speech patterns, habits, and defects as related to dental and orofacial problems.

171. Diagnosis and Treatment of Orofacial Anomalies. (2) F. Seminar and Clinic: 3 hours. Harvold, Chiciroli Diagnostic, preventive, and corrective methods related to patients with congenital malformations of the orofacial region are discussed and applied.


180.6. Habilitation of Abnormal Orofacial Development. (1) W, F. Seminar and Clinic: 3 hours. Prerequisite: Fourth-year standing or consent of the instructor.

Chiciroli, Harvold The pathogenesis of jaw deformities, dental malocclusions, and speech disorders associated with congenital malformation are discussed. Instruction in diagnosis and in preventive and corrective treatment methods is given in the clinic.


Chiciroli Instruction in biomechanic technique and methodology is given in connection with a selected research problem in the Clinic.

187.5. Diagnosis and Treatment Planning in Orofacial Malformations. (1) W, F. Seminar and Laboratory: 3 hours. Prerequisite: Orofacial Anomalies 170 and consent of the instructor and the Dean.

Harvold and Staff A clinical survey, a clinical experiment, or an animal experiment will be designed and analyzed.

401. Orofacial Prosthetics. (1-5) F. Seminar: 4 hours; Laboratory, and Clinic: 3-9 hours. Prerequisite: D.D.S. degree or equivalent.

Chiciroli and Staff Prosthetic habilitation of the patient with orofacial malformations. Discussions will include principles and techniques of construction of edentulous, speech appliances, and retention bridges.

406A-B-C. Orofacial Orthopedics. (1-3) F, W, Sp. Seminars: Laboratory, and Clinic: 3-9 hours. Prerequisite: D.D.S. degree or equivalent.

Harvold and Staff Diagnosis of orofacial malformations and current preventive and corrective measures. Emphasis will be placed on the interrelationship of morphology and physiology and the coordination of treatment by the various disciplines involved.

407. Orofacial Prosthetics. (1-3) W. Seminar, Laboratory, and Clinic: 5-9 hours. Prerequisite: D.D.S. degree or equivalent.

A course designed to acquaint the student with many facets of prosthetic management of acquired oral defects. Relationship of prosthetics to speech, mastication, deglutition, oral biology, and surgery will be discussed. The interdisciplinary management of these problems will be stressed.

408A-B-C. Speech Habilitation. (1-3) F, W, Sp. Seminar, Laboratory, and Clinic: 3-9 hours. Prerequisite: D.D.S. degree or consent of the instructor.

Lawson and Staff Normal development of speech, etiology, and diagnosis of speech defects; principles and methods of remedial procedures, with special emphasis on patients with orofacial malformations or defects.

ORTHODONTICS

121. Introduction to Growth and Development. (1) F. Seminar: 1 hour. Harvold A description of the mode of growth of the craniofacial complex. General aspects of growth with clinical implications for the growing child are discussed including the eruption of teeth and their correlation with facial growth.

131A-B. Orthodontics in General Practice. (1-1) F, W. Lecture: 1 hour. Prerequisite: Orthodontics 121. Scholz Recognition and treatment of the problems most commonly seen by the general practitioner.


160. Principles of Orthodontics. (1) W. Lecture: 1 hour. Meyers This is a discussion of recognition, etiology, and principles of orthodontics for the dental hygienist.


170C. Fundamentals of Orthodontics. (2) Sp. Prerequisite: Orthodontics 170A-B. West Continuation of 170A-B.

171B-C. Orthodontics in Periodontic Practice. (1-1) W. Lecture: 1 hour. Prerequisite: Approval of instructor and enrollment in a postdoctoral specialty program. Staff This course includes orthodontic principles and techniques that are applicable in a periodontic practice.


171.02. Biology of Dental Development. (2) Sp. Prerequisite: Orthodontics 171.01 A-B-C. Lecture: 2 hours. W. Embryology of the face and palate, biology of cartilage and bone as applied to dental and craniofacial development of newborn babies, and physiology of tooth movement.

171.O3A-B-C. Orthodontics in Pedodontic Practice. (1-1-1) F, W, Sp. Prerequisite: Consent of the instructor and permission to enter in a postdoctoral specialty program. Lecture: 2 hours. West and Staff This course includes orthodontic principles and techniques that are applicable in a pedodontics practice.


172A. Cephalometrics. (2) F. Seminar: 2 hours. Poulton Use of lateral headfilms: reliability of landmarks, applications in dentistry. Technique of tracing, evaluation of relationships, technique of superimposition are discussed and illustrated.

172B. Cephalometrics. (2) W. Seminar: 2 hours. Poulton Evaluation of various analyses used in orthodontic diagnosis including growth changes in serial studies.

172B-1C. Introduction to Orthodontic Research. (2-1) W, Sp. Lecture: 2 hours. 1 hour. Sp. Baumrind Introduction to design and analysis of clinical investigations. Special emphasis is
Placed on critical reviews of selected scientific literature in terms of appropriate design, hypothesis testing, and generalization.

172.02A. Supervised Orthodontic Research. (1–3) F. W. Prerequisite: 172.01 B-C.
Sheldon, Baumfind
Participation in group and individual clinical investigations including experience in hypothesis generation, sampling, measurement, data acquisition, and data analysis.

172.02B. Orthodontic Diagnosis. (3–5) F, W, Sp. Seminar: 3 hours. West and Staff
Evaluation and treatment planning of various types of malocclusion.

172.02C. Special Study. (1–2) F, W, Sp. Research: 3 hours. Baumfind
Research project and preparation of thesis.


173.04. Treatment Planning. (3–5) SSII. Seminar: 5 hours. West Staff Seminar.

173.05. Special Study. (1–2) SSII. Research: 3 hours. Baumfind
Research project and preparation of thesis.

173.06. Treatment Evaluation. (3–5) SSII. Seminar: 5 hours. West Staff Seminar.

174.1A–B. Biomechanics. (2–1) F, W. Seminar: 2 hours. F, 1 hour. W. West
Development of force systems and advanced orthodontic techniques.


176B–C. Comparative Orthodontic Concepts. (0–3) SS, W. Seminar: 2 hours. Position. Principles of orthodontic treatment procedures to provide orthodontic students with a knowledge of techniques differing from those taught in clinical courses.

177. Practice Management. (1) F. Seminar: 1 hour. West Staff Seminar.
Practice management and office administration.

178. Functional Occlusion. (2) F. Seminar: 2 hours. West and Staff
Discussion of occlusion from the standpoint of the orthodontist and periodontist and from the standpoint of oral rehabilitation.

West and Staff
Laboratory instruction precedes clinical experience. A minimum of 1,000 hours are included in the series of courses Orthodontics 179.01A–B-C, 179.02, 179.05A–B, and 179.04.

179.02. Clinical Orthodontics. (5) SS. Clinic: 15 hours. West and Staff Continuation of Orthodontics 179.01A–B-C.


179.04A–B. Clinical Orthodontics. (5–6) SS, SSII. Clinic: 15 hours. West and Staff Continuation of Orthodontics 179.05A–B-C.

Discussion of diagnosis, prognosis, and approach to treatment of malocclusions. Includes treatment timing, limitations, and interdisciplinary problems.

Various concepts of occlusion will be evaluated as they affect habituation problems and functional problems of the temporomandibular joint.


191. Orthodontic Clerkship—Surgey 110 and 111 includes seven to eight orthopaedic lectures, case presentations, and outpatient clinic assignments. Students are given instruction in methods of examination of patients with musculoskeletal disorders with emphasis on diagnosis and principles of treatment.

192. Orthopaedic Surgery Clerkship. (1.5–4 per week) F, W, Sp. Prerequisite: Surgery 110 and 111. UC Murray

193. Students, assigned to inpatient and outpatient services, receive instruction and experience in examination and treatment of patients. Attention in surgery and in use of treatment modalities is required. Clinical demonstrations, seminars, and conferences form the basis for didactic instruction.

140.02. Orthopaedic Surgery Clinical Clerkship. (1.5 per week) F, W, Sp. Prerequisite: Surgery 110 and 111. Murray
Orthopaedic surgery clinical clerks are offered in off-campus hospitals approved by the department chairman and the dean.

140.03. Orthopaedic Surgery Clinical Clerkship at PMC. (1.5 per week) F, W, Sp. Prerequisite: Surgery 110 and 111.

140.04. Rehabilitation Clinical Clerkship. (1.5 per week) F, W, Prerequisite: Medicine 311A–B. Bard
Rehabilitation clinical clerks are offered in off-campus hospitals approved by the dean and the chairman of the department.

170.01. Biomechanics of the Locomotor System. (1) F, W, Sp. Prerequisite: Consent of the instructor. Inman
Correlation of anatomy and function with demonstrations on patients.

A didactic course in orthopaedic pathology conducted as demonstrations and presentations by faculty and students and illustrated by gross and microscopic specimens and case studies.

A lecture series covering tumors and infections of the musculoskeletal system, illustrated by microscopic slides and photographs of gross specimens.

492. Seminars in Physiology of Musculoskeletal System. (1) F, W, Sp. UC Morris
Seminars cover connective tissue metabolism, muscle, bone, and joint physiology, preoperative and postoperative management of patients; wound infections; microbiology; and surgical principles.

Course includes lectures by students and faculty on gross and functional anatomy, laboratory dissections of cadaver material, and demonstrations of surgical approaches.


UC Smith
Research projects are provided in orthopaedic surgery under the direction of a faculty member. Research activities include instruction in scientific methods, statistical analysis, and manuscript preparation.

Clinical instruction in the care and management of orthopaedic problems in rheumatoid arthritis and allied diseases. Cases are presented by residents to attending staff and rheumatology consultants.

Seminars include presentation of problem cases by residents for consideration of diagnosis and treatment and discussion by the attending staff.


UC Bovill
Selected problems are illustrated by case treated or under treatment. Cases are presented by the resident staff and discussed by members of the attending staff.

409. Orthopaedic Surgical Conference. (1) F, W, Sp. UC Johnston
Conference with emphasis on children's problems in which residents make case presentation of inpatients for review and new patients for consideration of diagnosis and therapeutic plan.


UC Bovill
Conference includes review of admissions and discharges of hospitalized patients by the attending and consultant staffs. Cases are summarized by the residents.


CHUM Rowe, SF Smith, SM W. Johnston
Seminars are held in rotation at each of these hospitals with residents from all three hospitals attending. They include literature
review and demonstrations related to surgical approaches, anatomic dissections, diagnosis, and treatment.

413. Medical Staff Conference. (1) Su, F. W., Sp. UC Murray
Residents prepare and present case histories of inpatients and selected outpatients. Course includes discussions on diagnostic procedures, indications for surgery, immediate postoperative follow-up, and problem cases consultations.

414. Seminar in Orthopaedic Diagnostic Radiology. (1) F. W., Sp. UC Steinbach
Orthopaedic residents present cases for diagnosis and discussion.

This conference includes case presentations, lectures, and discussion on new developments in rehabilitation.

This conference includes case reviews of patients referred for rehabilitation and special study of comprehensive management including evaluation and disposition of patients (medical, social, vocational, psychotherapy, psychiatric, and other paramedical factors).

417. Seminars in Rehabilitation Literature. (2) Su, F. W., Sp. UC Spect
Current literature in physical medicine and rehabilitation is presented. Seminars include presentation of selected topics, literature review, and discussion. Discussion is moderated by a faculty member.

Residents are responsible for patient care in the wards and outpatient clinic including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations.

C. L. Larsen, CHMC Rowe, S. V. L. Larsen, M. J. L. Larsen
Residents are responsible for patient care in the wards and outpatient clinic including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations.

A practical course in general orthopaedics in the outpatient clinic, hospital wards, and operating room. Instruction is given in common ear, nose, and throat surgical procedures.

140.02. Clinical Clerkship. (11 per week) Su, F. W., Sp. Prerequisite: Medicine 151A-B
Clinical clerkships in off-campus hospitals approved by department chairman and dean.

158. Supervised Study in Otolaryngology. (4-5) F. W., Sp. Prerequisite: Consent of the instructor.
Schindler and Staff

159. Laboratory Project in Otolaryngology. (4-5) F. W., Sp. Prerequisite: Consent of the instructor.
Schindler and Staff

280. Didactic Lectures. (2) F. W., Sp. Sooy
Lectures cover the anatomical, physiological, and clinical aspects of otolaryngology.

A formal course in the anatomy of the head and neck.

Cadaver dissection and demonstrations are given by members of the staff.

403. Ear, Nose, and Throat Histology and Pathology. (2) F. W., Sp. J. W. R. Keyser
A review of the anatomy, physiology, and pathology of the nose, throat, and the middle ears and their appendages.

410. Staff Rounds. (2) F. W., Sp. Sooy
Weekly conferences are held with discussions of current problems concerning diagnosis and management of patients with references to current literature, modern theory, and contro-versial aspects.

415. Seminar in Audiology and Speech Pathology. (1) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

416. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

417. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

418. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

419. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

420. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

421. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

422. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

423. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

424. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

425. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

426. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.

427. Seminar in Audiology and Speech Pathology. (3) F. W., Sp. UC Sooy
A seminar includes various physical and clinical procedures in the diagnosis and management of hearing disorders.
452. Technique of Endoscopy. (1½ per week) F, W, Sp. All residents except at F. Z. UC S007
A study of the techniques of endoscopy and some practical laboratory study including cadaver work.

453. Surgical Otolaryngology. (1½ per week) Su, F, W, Sp. SF Tipton
Resident, in off-campus hospital for surgical training to satisfy Board requirements, is responsible, under supervision, for patient care in wards and clinic, assistance at operations. Diagnosis and treatment of surgical conditions in the head and neck area is stressed.

Interns, under supervision of the attending staff, are responsible for patient care in wards and the follow-up clinic, including history-taking, examination, and consultation. This rotation is combined with patient care assignments in the Ophthalmology Service.

PARASITOLOGY

153. Medical Parasitology. (3) W. Lecture: 2 hours; laboratory demonstration: 2 hours. Heyman and Staff
An introduction to the protozoa, helminths, and arthropods that parasitize man. Parasite ecology and disease epidemiology, clinical and diagnostic aspects of parasitic diseases, and their treatment are considered in lecture and laboratory. Emphasis in the laboratory is on demonstration.

PATHOLOGY

100. Systemic Pathology. (6) F. Margaretten
Recent advances and classical concepts of diseases as they affect each of the organ systems are presented. Emphasis is given to correlation of functional and morphological characteristics of diseases of organ systems.

The basic principles of pathology are presented in lectures, laboratories, and seminars. Morphologic and functional abnormalities in disease processes will be considered from ultrastructural, cellular, and tissue levels.

126. General Pathology. (5) F. Lecture: 5 hours; Laboratory: 6 hours. Prerequisite: Anatomy 110A-B and Physiology 110A-B.
The fundamental principles of pathophysiologic and physiologic changes incident to abnormal states. Inflammation, infection, degeneration, regeneration and repair, metabolic, vitamin and endocrine disturbances, and tumors are discussed with the aid of gross material and microscopic slides.

135. Pathology. (4) F. Prerequisite: Anatomy 115 and 116; Biochemistry 120A-B; and Physiology 120 and 125. Lecture: 3 hours; Laboratory: 3 hours. J. Lee
The fundamental principles of pathophysiologic changes incident to abnormal states. Inflammation, infection, degeneration, regeneration and repair, metabolic, vitamin and endocrine disturbances, and tumors are discussed.

In the laboratory and seminars, students observe and participate in the study and diagnosis of surgical specimens. The technique of frozen sections and the preparation of surgical pathology conferences.

150.2. Surgical Pathology and Postmortem Examination at SF. (1½ per week) Su, F, W, Sp. Prerequisite: Pathology 100. McKay, Howes
Preparation of surgical specimens and autopsies during the postmortem conference. Preparation of gross specimens for study.

150.3. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Pathology 100. Moon, Morgenstern, and Staff
Clinical clerkships in off-campus hospitals approved by the Dean and the chairman of the department.

150.4, 150.5, 150.6. Clinical Pathology at HCM, SF, LA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. Consent of the instructor. AC Spence, Rambo, Rosenau, SF McKay
The students participate in the work-up of autopsies and surgical specimens. They will be actively involved, given responsibility, and work closely with the faculty and house staff. Minimum length eight weeks, maximum twelve weeks, approval of applicant only.

150.7. Research in Pathology. (1½ per week) F, W, Sp. Prerequisite: Consent of the instructor and department.
A research project under the direction of a member of the faculty.
140.11. Pediatric Cardiology at CHMC. (1/4 per week) Su, F, W, Sp. Prerequisite: Pediatrics 110 and Medicine 110. Higashino
Students participate in clinical experience including outpatient clinic, care of ward
patients, cardiopulmonary laboratory, cardiovascular conferences, preoperative and post-
operative care of surgical patients, and instruction in pediatric electrocardiography and vec-
torcardiography.

Graham
All time to be spent on the inpatient serv-
ices at CHMC and UF where student has clinical
responsibility for selected pediatric patients.

Dower
All time to be spent on the outpatient serv-
ices at CHMC and UF where student has clinical
responsibility towards pediatric patients.

Olney
Work under the direction of Dr. Olney in Diabetic Camp, clinical and management aspects of childhood diabetes. Students have an opportunity to participate in the opera-
tions of the camp program and treatment of many aspects of diabetes.

140.15. Outpatient Pediatrics at UC. (1/4 per week) Su, F, W, Sp. Prerequisite: Pediatric Medicine 110 and Medicine 110.
Dower and Staff
Experience in patient care in the following clinics: General Pediatrics (including acute illness), Family Clinic, subspecialty clinics in medical and surgical pediatrics, and Child Study Unit. Individual programs are arranged by Clinic Director and Chiefs of special areas.

Clinical experience in pediatric nephrology encompassing Pediatric Service at CHMC and UF. Experience with electrolyte problems, dialysis, and transplantation. Joint conferences with Medicine. Selected cases are subjects for in-depth study. Research projects may be arranged with instructors.

The evaluation and management of chil-
dren and adults with hereditary (including
cytogenetic) diseases, with special emphasis on the biochemical and genetic mechanisms involved in the pathogenesis and transmission of these conditions.

Phibbs
Clinical experience in newborn nursery and neonatal care, emphasis on neonatal care with em-
phasis upon physiological adaptations to ex-
traterrestrial life.

Students participate in patient care in close association with the House Staff and clinical fellows both in wards caring for ill children and in Newborn Intensive Care Unit, and in rounds and conferences conducted by senior staff.

Students participate in the comprehensive care of children. Experience with various ill-
nesses is provided in appropriate specialty clinics. A wide variety of child care problems will be seen during visits to offices of senior pediatricians participating in the program.

Deamer
Diagnosis and treatment of asthma, aller-
genic rhinitis, eczema, and pollinosis. Participation in activities of allergy trainees. Skin testing and preparation of treatment antigens.

Experience in direct patient care in the Pediatric Sensitive Clinic.

Participation in the clinical and investiga-
tive aspects of endocrine and metabolic problems in children. Students spend time in the laboratory, wards, and clinics.

Participation in human cytogenetic studies in children. Emphasis is on laboratory work with exposure to clinical problems and patients.
149. Clinical Pedodontics. (1 at end of course) F. W., Sp. Residents. Morris and Staff
Pre-requisite: Pedodontics 119.

150. Clinical Pedodontics Rotation. (10 total) F. W., Sp. Clinical rotation: 60 hours. Pre-requisite: This course must be taken concurrently with Dental Auxillary Utilization and Staff.


152. B-C. Clinical Pedodontics. (5-6, 7-9, 10-12) F. W., Sp. Clinical: 9-12 hours. Morris and Staff

Continuation of Pedodontics 170.01A-B-C.


Assigned reading of current and class literature in pedodontics and allied academic areas. Review and discussion of each reading assignment to prepare student to evaluate critically dental literature.

154. B-C. Pedodontics Seminar. (2, 3, 4) F. W., Sp. Seminar: 2-3 hours. Pre-requisite: Pedodontics 171.01A-B-C.

Continuation of Pedodontics 171.01A-B-C.

155. B-C. Hospital Dentistry. (5-6) F. W., Sp. Dentistry: 6 hours. Morris and Staff

Hospital procedures: admitting, ordering, history, charting, laboratory tests, reports, and administrative considerations. Organizing and equipping the hospital operating room for comprehensive dental care of patients under general anesthesia. Clinical experience in treating chronically ill hospitalized patients.

156. B. Clinical Pedodontics. (6) F. W., Sp. Clinical: 18 hours. Morris and Staff

Providing dental care for non-English speaking migrant population utilizing facilities of 4 noble clinic.

157. B-C. Treatment Planning and Surgery Seminars. (1-1) F. W., Sp. Seminar: 1 hour. Shibley and Staff

Students present and discuss management of their cases which are either planned for treatment or currently under treatment. They are expected to defend their treatment plan and therapeutic procedure based on relevant literature and clinical experience.

158. Pediatric General Anesthesia. (3) F. W., Sp. Children's Medical Center, East Bay: 50 hours. Schroeder and Staff

An introductory course in general anesthesia to familiarize the student with the problems and risks attendant upon general anesthesia, the agents used, and methods of delivery. Clinical experience under close supervision will be provided to each student.

159. B-C. Hospital Dentistry. (2) F. W., Sp. Dentistry: 2 hours. Morris and Staff

Students will be assigned to the hospital and will be responsible for delivery of dental care for all in-patient students. Definitive dental care will be provided on the ward as well as in the operating room.


B. Smith

Documented discussions on pedodontics, mixed dentition analysis, malocclusions, missing incisors and premolars, hypoplasias, anomalies, injuries, and oral manifestations of systemic disease. Designed for students considering pedodontics as a specialty. Counseling is provided for postdoctoral education.

161. Clinical Practicum in Pedodontics. (5-6) F. W., Sp. Pre-requisite: Pedodontic Periodontics 170.01A-B-C and completion of clinical pedodontics and all third year clinical and didactic courses in operative dentistry. Clinic: Variable. Enrollment is subject to the approval of the Clinic Review Committee. Morris and Staff

This course provides credit for additional clinical experience in pedodontics.
PERIODONTALD

120. Periodontology Introduction. (1) Sp. Lecture and demonstration: 1 hour. Park
The students’ introduction to oral hygiene problems of the periodontal patient and the means and methods available to the dentist to motivate the patient to care for himself.

130. Periodontics. (1) F. Lecture: 1 hour. Prerequisite: Periodontology 120. Park and Staff
Clinical manifestations are correlated with histopathologic findings. Emphasis is given to diagnosis and etiology of inflammatory periodontal disease.

131. Periodontics. (1) W. Lecture and demonstration: 1 hour. Prerequisite: Periodontology 120 and 130. Park
The demonstration and rationale of surgical treatment of periodontal lesions.


140. Periodontics. (1) W. Lecture: 1 hour. Prerequisite: Periodontology 130 and 131. Park
Rationale and technique in periodontal therapy.

Continuation of Periodontology 139.

150. Periodontics. (2) Sp. Lecture and demonstration: 2 hours. Parp, Lipsig
A seminar on the oral hygiene problems of the periodontal patient and the means and methods available to the dentist and auxiliaries to motivate the patient to self-care.

160. Periodontics. (1) F. Lecture: 1 hour. Prerequisite: Periodontology 130. Arrittage
Classification of periodontal diseases and methods of their prevention. Principles of pathology are correlated to therapeutic procedures. A faculty panel discusses the role of the hygienist in dental practice.

161. Periodontics. (2) W. Lecture and demonstration: 2 hours. Prerequisite: Periodontology 140. Ross
The demonstration and rationale of surgical treatment of periodontal lesions. The role of the dental hygienist in dental practice.

Dynamics of inflammation and its role in the periodontal tissues.

171A-B-C. Clinical Periodontics. (F, W, Sp) Laboratory Clinic: 12 hours W, 24 hours Sp. Shibata, Green and Staff
Clinical procedures in periodontal therapy.

173.01. Periodontal Therapy. (2) SS. Clinic: 60 hours. Prerequisite: Periodontology 171A-B-C. Shibata and Staff
Clinical procedures in periodontal therapy. This course is an enlargement on earlier clinical experience.

173.02A-B-C. Periodontal Therapy. (4-6) F, W, Sp. Clinic: 12 hours. Prerequisite: Periodontology 171A-B-C. Shibata, Green and Staff
Advanced clinical procedures in periodontal therapy. Shibata, Green and Staff
Advanced surgical techniques in management of periodontal lesions.

A seminar to discuss and evaluate the problems common to the specialties of orthodontics and periodontics.

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They are expected to defend their treatment plan and therapeutic procedure based on relevant literature and clinical experience.

Study in depth with literature review and seminar discussions on surgical techniques used to treat lesions involving the hard and soft tissue of the periodontium.

Objective of this course is to provide a basic content of the principles of occlusion, upon which definitive therapeutic procedures can be based.

180.02A-B-C. Advanced Periodontics. (1-5) F, W. Prerequisite: Periodontology 130 and 131 and consent of the instructor. Limited enrollment. Green and Staff
A study of depth with literature review and seminar discussions of areas of periodontology having major clinical significance.

180.03A-C. Periodontal Surgical Techniques. (1-5) F, Sp. Lecture: 1 hour. Prerequisite: Periodontology 130 and 151. Periodontology 140 is taken between the two quarters of Periodontology 180.03A-C. Limited enrollment. Shibata, McGirt
Surgical techniques are presented which may be used to treat lesions occurring in the hard and soft tissues of the periodontium.

189.01. Clinical Periodontics. (1-3) F, W. Sp. Prerequisite: Periodontology 149. Clinic: Variable. Shibata, Green and Staff
Continues clinical experience beyond the level of Periodontology 149.

190. Laboratory Project in Periodontics. (1-5) F, W, Sp. Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairman of the division.

200. Introduction to Research Methodology. (2) Sp. Prerequisite: Biochemistry 110 or equivalent. Research: 2 hours. Zipkin, Bhatnagar
An introductory course directed to implement and refresh the research needs of the professional postdoctoral students and candidates for the M.S. in Oral Biology. Lectures are on nanomorphology, autoradiography, radioisotopes, spectrophotochemistry, enzymes, electron microscopy, histochemistry and autoradiography.

299. Periodontology. (2) F, W, Sp. Shibata Seminar designed to correlate basic sciences with problems in periodontology and evaluate concepts in the direction of research, clinical application, and teaching. Selected papers in the literature will be reviewed and evaluated. Other instructors will be invited to participate.

PHARMACEUTICAL CHEMISTRY

121. Principles of Pharmaceutical Chemistry. (3) F. Prerequisite: Chemistry 113. Lecture: 3 hours. Jorgensen, Castagnoli
A study of physicochemical and biological factors which contribute to drug action; in vivo and in vitro biotransformations of drugs, and related organic compounds.

122. Principles of Pharmaceutical Chemistry. (3) Sp. Prerequisite: Pharmaceutical Chemistry 120 and concurrent enrollment in Pharmacology 121. Lecture: 3 hours. Brochmann-Hansen, McDonagh
A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on steroids, hormones, and drugs for metabolic disorders.

122. Principles of Pharmaceutical Chemistry. (3) Sp. Prerequisite: Pharmaceutical Chemistry 120. Lecture: 3 hours. Brochmann-Hansen, McDonagh
A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on drugs affecting the autonomic nerves and cardiovascular systems as well as renal function.

123. Principles of Pharmaceutical Chemistry. (3) F. Prerequisite: Pharmaceutical Chemistry 120. Lecture: 3 hours. Brochmann-Hansen, Jorgensen
A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on drugs affecting the central nervous system.

124. Principles of Pharmaceutical Chemistry. (3) F. Prerequisite: Pharmaceutical Chemistry 120 and concurrent enrollment in Pharmacology and Toxicology 135. Lecture: 2 hours. Pratt
A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on anti-infective and anti-neoplastic drugs.

151. Pharmaceutical Analysis. (3) W. Prerequisite: Chemistry 115 and 115. Lecture: 3 hours. Brochmann-Hansen
Principles of pharmaceutical analysis used for evaluation of drugs and dosage forms, with special emphasis on modern separation techniques and in instrumental methods of analysis.

152. Radioisotopes in Biology and Medicine. (1-5) F. Lecture: 1 hour. Peng, Powell
Discussion will be on radioisotopes in general use in biology and medicine. The course will be oriented towards topics of broad interest.
A study of radionuclides used in nuclear medicine as pharmaceuticals. Dosage form design and related aspects will be discussed.

154. Pharmacological Quality Control. (2) W. Prerequisite: Pharmacy 655; Pharmacy 456 completed or in progress. Lecture: 2 hours. Brochmann-Hansen
General principles of total quality control applied to the manufacture of pharmaceuticals. Introduction to statistical quality control, its application to process studies, and evaluation of dosage forms. Consideration given to simplified quality control systems for small-scale manufacturing and hospital pharmacy.

155. Physical Measurements. (4) SP. Prerequisite: Physics 6A-B-C and Mathematics 16A-18, or equivalent. Lecture: 5 hours. Laboratory: 3 hours. F. Goyan
The fundamentals of physical measurement applied to the selection and use of common scientific instruments.

156. Pharmaceutical Analysis. (2) SP. Prerequisite: Pharmaceutical Chemistry 151. Laboratory: 6 hours. Rodriguez, Professor
Experiments in pharmaceutical analysis applied to drug entities, dosage forms, and samples of biological origin.

157. Spectroscopy and Mass Spectrometry. (2) SP. Prerequisite: Physical Chemistry 153 or consent of the instructor. Laboratory: 6 hours. Martin, Rowland, Brochmann-Hansen
Theoretical and practical aspects of the techniques of analysis of molecules of biological and medicinal interest.

158. Physical Chemistry of Nucleic Acids. (1) SP. Prerequisite: Physical Chemistry 153 or consent of the instructor. Lecture: 1 hour. laboratory: 3 hours. F. Goyan
The chemistry, structure, and properties of nucleic acids. Introduction to the use of biochemical techniques in physical chemistry.

159. Advanced Survey of Medicinal Chemistry. (2) F. Prerequisite: Consent of the instructor. Lecture: 2 hours. Jorgensen
An advanced course in the application of physical methods to the study of medicinal chemistry. Emphasis on the structure and properties of biological substances.

An introduction to the principles and methods of medicinal chemistry. Emphasis on the structure and properties of biological substances.

161. Basic Techniques in Nuclear Radiodiagnostic Research. (4) SP. Prerequisite: Physical Chemistry 160 or consent of the instructor. Lecture: 1 hour. Peterson, Professor
Emphasis on the principles and techniques used in the field of nuclear radiodiagnostic research. Introduction to the use of radiotracer techniques in biological systems.

162. Advanced Physical Chemistry. (4) SP. Prerequisite: Physical Chemistry 153 or 160, or consent of the instructor. Lecture: 1 hour. Powell, Price
This course will cover the theory and methodology of physical chemistry, with special emphasis on the application of physical methods to the study of biological systems.

163. Advanced Physical Chemistry. (4) SP. Prerequisite: Physical Chemistry 153 or 160, or consent of the instructor. Lecture: 1 hour. Powell, Price
This course will cover the theory and methodology of physical chemistry, with special emphasis on the application of physical methods to the study of biological systems.

164. Modern Techniques in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Principles and methods of some of the modern techniques used in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

165. Advanced Techniques in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Advanced techniques in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

166. Advanced Techniques in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Advanced techniques in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

167. Special Topics in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Special topics in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

168. Advanced Topics in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Advanced topics in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

169. Advanced Topics in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Advanced topics in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

170. Advanced Topics in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Advanced topics in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

171. Advanced Topics in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Advanced topics in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

172. Advanced Topics in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Advanced topics in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

173. Advanced Topics in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Advanced topics in pharmacological chemistry. Emphasis on the structure and properties of biological substances.

174. Advanced Topics in Pharmacological Chemistry. (2) W. Prerequisite: Physical Chemistry 113, 157, or equivalent. Library: 2 hours. Jorgensen
Advanced topics in pharmacological chemistry. Emphasis on the structure and properties of biological substances.
changes, as in the case of seminars. Hence, it may be repeated for credit.

210. Radiochemical Synthesis. (1-2) F, W, Sp. Prerequisite: Consent of the instructor. Laboratory: 3-6 hours.

Peng

Theoretical and techniques related to the synthesis of isotopically labeled organic compounds. May be repeated for credit with consent of the instructor and graduate advisor.

241. Radiobiological Analysis. (1) W. Prerequisite: Consent of the instructor. Laboratory: 3 hours.

Peng

Experimental techniques related to various aspects of radiobiology of biological specimens, biochemical compounds, and drugs isotopically labeled with tritium and/or radio-carbon.

242. Radiotracer Methodology. (1) W. Prerequisite: Pharmaceutical Chemistry 152 or 160, or consent of the instructor. Lecture: 1 hour. Licko, Benet, Peng

Discussions on the theory and principles in the use of radionuclides as tracers in biological systems. Emphasis will be placed on the design of experiments and data evaluation.

243. Chemical and Biological Effects of Ionizing Radiation. (1) Sp. Prerequisite: Pharmaceutical Chemistry 152 or 160, or consent of the instructor. Lecture: 1 hour. Harris, Painter, Peng

This course will discuss the effects of ionizing radiation on chemical and biological systems.

250. Research. (1-4) F, W, Sp. Staff

298. Thesis. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate advisor.

For graduate students engaged in writing the thesis for the masters degree.

299. Dissertation. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of graduate advisor.

For graduate students engaged in writing the dissertation for the Ph.D. degree.

PHARMACOGNOZY

150. Advanced Antibiotics. (3) W. Prerequisite: Permission to enroll in this course must be obtained from the instructor. No final examination. Lecture and conference: 3 hours.

Pratt

Selected topics from the current literature are discussed. Class limited to ten students.

151. Pharmacognosy. (3) Sp. Lecture and conference: 3 hours.

Pratt

Drugs from plants and animals, emphasizing the cell and the physicochemical and physiologic properties of its products as the basis of their medicinal and pharmaceutical uses.

155. Powdered Vegetable Drugs and Spices. (3) W. Prerequisite: Permission to enroll in this course must be obtained from the instructor. Lecture and conference: 1 hour. Laboratory: 6 hours.

Pratt

Microscopy of the more important powdered vegetable drugs and spices. Detection of impurities and adulterants.

170. Group Studies Course. (1-4) F, W, Sp. Prerequisite: Permission to enroll must be obtained from the instructor and the student's advisor. No final examination. Graded on a passed-not passed basis.

Pratt

Group studies of selected topics in pharmacognosy.

188. Supervised Study in Pharmacognosy. (1-5) F, W, Sp. Staff

Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

199. Laboratory Project in Pharmacognosy. (1-5) F, W, Sp. Staff

A laboratory research project under direction of a member of the faculty with the aid of the chairman of the department.

PHARMACOLOGY

100A-B. Medical Pharmacology. (58) F, (58) W. Prerequisite: Biochemistry 100 and Physiology 100 or equivalent. Lecture: 3 hours, F; 5 hours, W.

Katzung and Staff

A systematic presentation of pharmacologic agents based on drug group classification. Major emphasis is on clinically significant aspects of therapeutic effects, toxic effects, and evaluation of drugs.

121. Pharmacology and Toxicology. (18) W. Prerequisite: Concurrent enrollment in Pharmacological Chemistry 121. Lecture: 1 hour.

Sutherland and Staff

A systematic survey of action and uses of drugs with emphasis on steroids, hormones, and drugs for metabolic disorders.

125. Pharmacology and Toxicology. (Sp. Prerequisite: Biochemistry 120A-B and Physiology 120 and 125. Lecture: 3 hours Laboratory: 3 hours. Burkhalter, Hondeghem

Systematic survey of action and uses of drugs acting on autonomic nervous and cardiovascular systems and the kidneys.


Jensen, Goodson

The object of this course is to acquaint the dental and dental hygiene students with the fundamentals of pharmacology. Various classes of drugs are examined in regard to actions, absorption, fate, excretion, and toxicity. Agents useful in dentistry are emphasized.

130. Toxicology. (2) W. Prerequisite: Pharmacology 125 and 136. Lecture: 2 hours.

Hodge, Hine

The occurrence, mode of action, recognition, and treatment of poisoning by environmental chemicals and therapeutic agents.

154. Pharmacology and Toxicology. (18) W. Prerequisite: Concurrent enrollment in Pharmacological Chemistry 154. Lecture: 1 hour.

Apple and Staff

A systematic survey of action and uses of anti-antineuritic and anti-inflammatory drugs.

156. Pharmacology and Toxicology. (18) F. Prerequisite: Pharmacology and Toxicology 125. Lecture: 3 hours.

E. Way and Staff

Systematic survey of action and uses of drugs acting on the central nervous system.

159.01. Pharmacology Research. (15) per week. F, W, Sp. Prerequisite: Consent of the instructor.

Featherstone and Staff

Students perform individual research in a field of their choice with the guidance and supervision of a faculty member.


Staff

No final examination. Graded on a passed-not passed basis.

Group studies of selected topics in pharmacology.

170.01. Experimental Techniques in Pharmacology. (1-5) S. J. S. Prerequisite: Consent of the instructor and completion of biochemistry, physiology, and pharmacology courses.

Loh, Trevor

An elective course in practical laboratory experience to acquaint the student with biochemical and physiological techniques and in the study of drug action in systems from the subcellular level to the intact animal.


Katzung

Principles and applications of physiological techniques used in the study of drugs.

Emphasis placed on the study of cardiovascular and autonomic agents.

193. Special Topics in Pharmacology and Toxicology. (1-5) F, W, Sp. Prerequisite: Consent of the instructor. Lecture: 1-3 hours.

A seminar type course covering various aspects of pharmacology and toxicology.

194. Biochemical Techniques in Pharmacology. (1-3) F, W, Sp. Prerequisite: Consent of the instructor. Laboratory: 3-9 hours.

Loh, Burkhalter

A laboratory course in biochemical techniques as commonly applied to investigations of drug action.

198. Supervised Study in Pharmacology. (1-5) F, W, Sp. Staff

Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.


Katzung and Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

200A-B. General Pharmacology. (5-3) F, W, Sp. Prerequisite: Consent of the instructor and Biochemistry 200A; also Physiology 200B and C.

E. Way, Burkhalter, Sutherland and Staff

Lecture-conference course dealing with fundamental aspects of interactions between chemical compounds and the body and between compounds and biological systems. Mechanisms of drug action at molecular, biochemical, membrane, tissue, and organ levels of the cardiovascular, muscular, and central nervous systems are considered.

209. Molecular Mechanisms of Action of Biologically Active Substances. (3) F, W, Sp. Prerequisite: Pharmacology 194 or consent of the instructor. Lecture: 3 hours.

Advanced biochemical experimentation and theories concerning the mechanism of action of biologically active substances on a molecular level. The content of the course, beyond certain theoretical material, varies with each participant and consists of guided experiments in novel subjects.


Hine, Meyers, Hodge, Pasieka

A detailed examination of the field of toxicology. It relates to agricultural, environmental, forensic, industrial, military, regulatory, and therapeutic problems. Emphasis
placed on mechanism of action of toxic substances. Current advances and classical concepts of toxicology are presented.

220. Seminar. (0–4 hours) F, W, Sp. Staff
Seminar to discuss present methods and problems in the current teaching and research in pharmacology and toxicology.

250. Research. (1–8 hours) F, W, Sp. Staff

292. Physiological Techniques in Pharmacology. (1) W. Prerequisite: Pharmacology 206A or equivalent and consent of the instructor. Laboratory: 9 hours. Katzung
Principles and applications of physiological techniques used in the study of drugs. Emphasis is placed on the study of cardiovascular and autonomic agents.

298. Thesis. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the thesis for the masters degree.

299. Dissertation. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Staff
For graduate students engaged in writing the dissertation for the Ph.D. degree.

Opportunity is provided to participate in a formalized way in the teaching of pharmacology under the direction of the faculty.

PHARMACY

110. Orientation in Pharmacy. (2) F. Conference and field observation: 3 hours.
An introduction to the scope of pharmaceutical practice including field trips and participation in the various settings where the pharmacist and the patient interact.

115. Pharmaceutics and Physical Pharmacy. (4) W. Prerequisite: Chemistry 115 and concurrent enrollment in Chemistry 114. Lecture: 3 hours. Laboratory and conference: 3 hours. Orr, Len
Study of how various dosage forms have utility as drug delivery systems in particular clinical situations, including a discussion of physical and biological factors which interact and dominate the design of delivery systems. Laboratory preparation of basic drug delivery systems.

A continuation of Pharmacy 115, plus a consideration of the importance and use of drug delivery systems.

127. Procrastination Study and Practice. (1) F. Prerequisite: Pharmacy Administration 112. Lecture: 2 hours. Laboratory and conference: 6 hours. Lem, Day
Application of philosophical, ethical, and legal principles to the practice of the profession of pharmacy. Due consideration is given to the dispensing of prescriptions.

The interrelationships among the properties and pharmaceuticals, their dosage forms, and their pharmacodynamic effects.

129. Biopharmaceutics: Specific Aspects of Physiological Availability of Drugs. (1) Sp. Prerequisite: Pharmacy 128. Lecture: 3 hours. Laboratory and conference: 5–4 hours. Tozer, Rowland
A continuation of Pharmacy 128.

130. Clinical Pharmacy. (5) F. Prerequisite: Pharmaceutics 125. Lecture: 4 hours. Conference: 2 hours. Kimble, Riegelman and Staff
Orientation to selected areas of medical practice, the clinical evaluation and comparison of drugs used in these areas, and the biopharmaceutics of the drug combinations and products.

131. Clinical Pharmacy. (6) W. Prerequisite: Pharmacy 130. Lecture: 5 hours. Conference: 2 hours. Kimble, Benet, Riegelman, and Staff
A continuation of Pharmacy 130.

A continuation of Pharmacy 131.

An orientation to clinical services, including patient interview techniques, observation, charting, training in literature retrieval and analysis, limited patient exposure.

137. Drug Information. Analysis Services (DIAS) Rotation. (1/2) F, W, Sp. Prerequisite: Pharmacy 130. Shimomura, Tong
Actual experience in systematic retrieval analysis and dissemination of drug information in response to requests by DIAS.

140. Biologic Products. (3) F. Prerequisite: Third-year standing. Lecture: 5 hours. K-H. Lee
A survey of the chemical, physical, and biological characterization and laboratory exercises on the formulation of products for external use, including both drugs and cosmetics. The course deals with the properties of such products and their ingredients.

141. Biologic Products. (2) W. Prerequisite: Third-year standing. Lecture: 2 hours. K-H. Lee
A discussion of the pharmacological aspects and evaluations of the therapeutic values of therapeutic agents in current clinical use, including enzymes, blood and its derivatives, plasma substitutes, hemotologic preparations, and blood products.

145. Clinical Pharmacy. (4) F. Prerequisite: Fourth-year standing. Lecture: 5 hours. Conference: 2 hours. Riegelman and Staff
Orientation to selected areas of medical practice, the clinical evaluation and comparison of drugs used in these areas, and the biopharmaceutics of the drug combinations and products.

146. Clinical Pharmacy. (5) W. Prerequisite: Pharmacy 145. Lecture: 4 hours. Conference: 2 hours. Benet and Staff
A continuation of Pharmacy 145.

A continuation of Pharmacy 146.

Kimble, Benet, Riegelman and Staff
Supervised experience in the patient care area pharmacy service. This course may not be repeated.

149. Outpatient Clinical Clerkship. (8) F, W, Sp. Prerequisite: Pharmacy 129.
Tong, Adler, Kimble, Levin and Staff
Supervised experience in the Ambulatory and Community Medicine Outpatient Clinics, including Comprehensive Care Clinic, Pediatrics Clinic, and Primary Care Clinic. This course may not be repeated.

151. Community Health Education. (2) Sp. Lecture and Discussion: 2 hours; participation in at least 4 community health education programs. Benet
To train students for participation in community health programs dealing with drug abuse education and other drug-health related areas, such as poison prevention, venereal disease, and birth control. This course is to be graded pass or no pass, and may be repeated for credit.

155. External Drug Products. (4) F. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 6 hours. Schwartz
Discussion of the chemical, physical, and biological characterization and laboratory exercises on the formulation of products for external use, including both drugs and cosmetics. The course deals with the properties of such products and their ingredients.

160. Biologic Products. (2) W. Prerequisite: Third-year standing. Lecture: 2 hours. Lee
A discussion of the pharmacological aspects and evaluations of the therapeutic values of therapeutic agents in current clinical use, including enzymes, blood and its derivatives, plasma substitutes, hemotologic preparations, and blood products.

165. Hospital Pharmacy. (1–5) F, W, Sp. Staff
Conference and special projects.

Oswang, Kildough
Recommended for students who plan to apply for the resident program in hospital pharmacy. Other students admitted only with the consent of the instructor.

170. Group Studies Course. (1–4) F, W, Sp. Prerequisite: Consent of the instructor and adviser. No final examination. Graded on a passed/not passed basis. Staff
Group studies of selected topics in pharmacy.

180. Drugs and Society. (5) W. Lecture: 5 hours. Prerequisite: Basic course sequence in pharmacology and consent of the instructor. Limited to 16 students. Term paper required. Library research, field surveys, guest lectures and interviews. Silverman
An analysis of the roles of the drug industry, pharmacy and medical professions, trade associations, governmental agencies, the Congress, consumer groups, and the press in the development, safety, efficacy, quality, advertising, prescribing, and pricing of selected drugs.

186. Supervised Study in Pharmacy. (1–5) F, W, Sp. Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

199. Laboratory Project in Pharmacy. (1–5) F, W, Sp. Staff
A laboratory research project under di-
Principles of management, specially directed towards developing familiarity with current problems peculiar to community pharmacy. Attention is paid to elements in locating, organizing, operating, and adapting a pharmacy.

155. Accounting. (3) F. Lecture: 1 hour. Discussion: 2 hours. Consideration of the fundamental concepts of accounting and its applied uses, with special emphasis upon the accounting requirements of the community pharmacy. Problem cases and demonstrations are presented.

170. Group Studies Course. (1-4) F. W. Sp. Prerequisite: Consent of the instructor and advisor. No final examination. Graded on a pass-not pass basis. Group studies of selected topics in pharmacy administration.

188A-B-C. Legal Problems Related to Health Care. (2-2-2) F. W. Sp. Prerequisite: Third-year Pharmacy. A is prerequisite to B, and B to C, but completion of entire sequence is not required. No final examination. Conducted in cooperation with law students who are teamed with students from professional schools on this campus to investigate assigned topics in their respective disciplines, with particular emphasis upon the legal implications arising therefrom.

198. Supervised Study in Pharmacy Administration. (1-5) F. W. Sp. Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

PHYSICAL THERAPY

100A. Anatomy. (4) F. Prerequisite: Anatomy 102 or equivalent. Nordschow

This course is designed to present the foundation of the structure and function of the human body, with emphasis in lecture and laboratory on topographic, skeletal, vascular, and neuromuscular aspects. Dissection of the upper limb, neck, and trunk are emphasized.

100B. Anatomy. (2) W. Nordschow

This course is designed to present the foundation of the structure and function of the human body, with emphasis in lecture and laboratory on topographic, skeletal, vascular, and neuromuscular aspects. Dissection of the upper limb and review is stressed.

101A. Physiology. (5) F. J. Lee

A general summary of the fundamentals of pathology with special emphasis on the correlation between pathological processes and the clinical signs, symptoms, and course of diseases. During the quarter, gross pathology is demonstrated and autops material is available.

102A. Physiology. (5) F. Lukin

A review of certain aspects of human physiology, with special attention to the cardiovascular system and metabolism. Specific aspects of pathologic physiology are considered, especially in relation to stroke and heart disease. Applications of physical principles to physiology are discussed.

103A. Neuroanatomy. (2) F. Garroule

The development of the human nervous system with special reference to structure and functional relationships.

104A. Physical Therapy Procedures I. (6) F. Nordschow, Ahrens

Lectures and laboratory practice in electrotherapy, kinesiology, and tests and measurements. Emphasis are therapeutic use of electricity in certain pathologic conditions; normal and abnormal states; methods of performing, recording, and interpreting testing and measuring procedures.

104B. Physical Therapy Procedures II. (6) W. Nordschow, Ahrens

Lectures, demonstrations, and laboratory practice in hydrotherapy, massage, and therapeutic exercise. Emphasized are therapeutic use of water and of massage techniques applied to various pathologic problems and techniques of administration of exercises commonly used in orthopaedic, medical, and neurological conditions.

104C. Physical Therapy Procedures III. (6) Sp. Gilbert and Staff

Lectures and laboratory practice in therapeutic exercise. Emphasized are methods of evaluating the patient and planning his program; use and care of assistive devices in rehabilitation of the handicapped; use and evaluation of changing concepts and special techniques of exercise.

105B. Physical Medicine and Rehabilitation. (5) W. Specht

Lectures and clinical demonstrations concerning peripheral vascular problems, geriatric patients, various types of arteritis, muscular dystrophy, spinal cord injury, cerebrovascular accidents, the brain damaged child, neck pain, and back pain.
106B. Clinical Medicine I. (5) W. Schiller, Wilson
Lectures and clinical presentations of medical and neurologic patients and designed to increase the student's understanding of the basic interrelationship of structure and function of the various body systems. Conditions requiring physical therapy treatment are fully discussed.

106C. Clinical Medicine II. (5) S. Spectr, Kaufman
Lectures in orthopaedic surgery, pediatrics, psychiatry, surgery, obstetrics, gynecology, geriatrics, and dermatology are presented by physicians in these specialties.

107B. Neuro muscular Physiology. (2) W. Ralston
A study of the physiology of striated muscle and peripheral nerve in relation to controlling mechanisms within the central nervous system. Special attention is paid to the physiological disfunctions which occur in various types of human motor disability.

108C. Basic Medical Procedures. (2) S. Gilbert and Specialty Staff
The study of procedures necessary for the total care of patients.

109C. Principles of Professional Practice and Administration. (5) S. Gilbert
A study of professional attitudes and obligations and the organization and administration of a department of physical therapy. Laboratory work includes observation in outpatient clinics and a clerkship in an approved hospital by special arrangement of the Clinical Clerkship Program.

410D. Clinical Clerkship. (14) S. Gilbert and Staff
Clinical clerkships consist of one-month assignments in three different institutions or agencies. Under supervision, students participate actively in clinical evaluation and care of patients. Clinical clerkship lectures are also scheduled.

PHYSIOLOGY

100. Organ System Physiology. (6) Sp. Prerequisite: Anatomy 100, 102, and 103; Biochemistry 106A-B; Physiology 101; or consent of the instructor. Lecture and conference: 6 hours. Laboratory: 4 hours. Staub and Staff
Normal function of the respiratory, cardiovascular, renal, and gastrointestinal systems and the metabolic functions of the body as a whole are studied in lectures, conferences, laboratory exercises, demonstrations, and clinical illustration.

101. Endocrinology. (4) W. Prerequisite: Anatomy 100; Biochemistry 106A-B; or consent of the instructor. Biochemistry 100B may be taken concurrently. Lecture: 3 hours. Laboratory: 3 hours. Gaon and Staff
The structure and function of the endocrine glands and selected aspects of endocrine pharmacology and pathology will be studied in lectures, demonstrations, and clinical conferences.

102. Integrative and Nutritive Systems. (5) Sp. Prerequisite: College-level biology, physics, and chemistry, or consent of the instructor. Lecture: 5 hours. Conference: 3 hours. Rothman and Staff
Introduction to organ systems with emphasis on nervous, endocrine, circulatory, respiratory, and alimentary functions in vertebrates. Importance of organ systems for the success of multicellular forms will be the focus. Fundamental cell processes will also be discussed, emphasizing differentiated function.

120. Mammalian Physiology. (5) W. Prerequisite: Physiology 125 required for students in School of Pharmacy; may be taken separately by graduate students only with consent of the instructor. Lecture: 3 hours. Mines Study of the integrative systems of the mammalian organism, particularly the nervous and endocrine systems.

125. Mammalian Physiology. (5) F. Prerequisite: Consent of the instructor. Lecture: 5 hours. Laboratory: 4 hours. Conference: 2 hours. Kellogg and Staff
Introduction to mechanisms by which mammals, especially man, function. The interaction of internal and external stimuli and their integration and functions of cells and tissues, circulation, respiratory, gastrointestinal, and excretory systems.

190. Research in Physiology. (1½ per week) S. Su, F, W. Prerequisite: Consent of the instructor. Kellogg and Staff
Individual research in endocrinology, neuromembraneology, respiratory physiology, neurophysiology, cardiovascular physiology, cell physiology, or other areas of interest. Permission of the instructor is required.

190.02. Research in Endocrinology. (1½ per week) F, W, Su. Prerequisite: Consent of the instructor. Kellogg and Staff
Research in endocrinology carried out in the Department of Physiology.

170.02. Electronic Instrumentation. (5) W. Prerequisite: College of Education. Winston
Basics of electronic information on electricity and electronics. Circuity and operating principles of a wide range of electronic instruments used in physiological and biochemical investigations.

138. Supervised Study in Physiology. (1–5) F. Prerequisite: Consent of the instructor. Gaon and Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

139. Laboratory Project in Physiology. (1–5) F. Prerequisite: Consent of the instructor. Gaon and Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

200. Tutorial in Physiology. (0) F, W, Spring. Prerequisite: Consent of the instructor.
Directed reading organized in seminar or tutorial fashion to review aspects of physiology under supervision of a member of the faculty.

201. Physiology of Vision. (2) F. Prerequisite: Physiology 110 or equivalent or consent of the instructor. Lecture: 2 hours. Brown
Study of the mechanisms underlying vision. Consideration is given to anatomy and physiology of the visual system, including the photoreceptors. Visual processes are described by the visual cortex.

Seminars in cardiovascular research in cardiovascular field and in related basic sciences. They acquaint students with basic physiological, research methods, and ways of evaluating research. Students take this course for credit toward a critical evaluation of one of the seminars.

Seminars on cardiovascular and pulmonary systems. Several seminars on experimental methods and cardiopulmonary problems. Work presented is discussed and evaluated by the faculty and fellows. For credit, students present a critical evaluation of one of the seminars.

204. Seminar: Topics in Physiology. (1) W. Prerequisite: Minimum of six course units of introductory physiology. Rothman
This seminar will discuss selected topics in cellular physiology. Readings will be drawn from primary and secondary sources.

206. Advanced Neurophysiology. (4) F. Prerequisite: Anatomy 100 or equivalent or consent of the instructor. Lecture: 4 hours.
Consideration of problems in the functioning of the nervous system. The emphasis will be on dynamic and electrophysiological processes rather than on the topographical and neuroanatomical aspects of neural function.

207. Neuroendocrinology. (1–3) Sp. Prerequisite: Endocrinology and neural sciences or consent of the instructor. Lecture: 1–3 hours. M. Dallman
Mechanisms for regulation of endocrine function by central nervous system and the influence of hormones on the nervous system will be considered. A view of anatomical, biochemical, physiological, and behavioral data in the literature. May be taken repeatedly.

208. Topics in Neurophysiology. (2) F. Prerequisite: Previously or concurrently Anatomy 100. Staff
Concepts in neurophysiology and their experimental basis. This course is elective supplement to the material presented in the core course, Anatomy 100.

209. Physiology of the Auditory, Vestibular, and Other Sensory Systems. (2) F. Prerequisite: Anatomy 103 or equivalent. Lecture: 2 hours. Merzenich
Lectures and demonstrations providing basic information about the physiology of the auditory system, vestibular system, chemical senses, and somatosensory system. Material will include historical and current concepts derived from relevant psychophysics, neuroanatomy, and neurophysiology.

220. Seminar. (1) F, W, Sp. Prerequisite: Consent of the instructor. Gaon and Staff
Seminar presentations by guest speakers, alternated with discussion by physiology staff members of their current research. Each quarter a different topic of physiological interest is the subject of group presentations. Students may enroll for any number of quarters.

221. Advanced Cardiovascular, Renal, and Pulmonary Physiology. (2) F, W, Sp. Prerequisite: Physiology 100 or equivalent. Crouse, Coleridge and Staff
This course includes critical reviews of topics of current importance, presentation of unsolved problems by staff, and critical evaluation of published articles by the group. The
Course 267

total program is presented over six successive quarters.

222. Endocrinology Seminar. (1, 2) F., W. Prerequisite: Consent of the instructor. Lecture: 2 hrs. 1037x730.

Ganong

Guest lectures alternating with reports of research in progress by members of the campus Graduate Group in endocrinology. A different topic of endocrinological interest is the subject of each presentation each quarter. Students may enroll for any number of quarters.

233. Graduate Student Seminar. (1-2) F., W. Prerequisite: Consent of the instructor. Lecture: 1-1/2 hrs. Kellogg

Supervised experience in studying selected topics in the physiological literature, writing abstracts, delivering lectures, and discussing them. Topics are varied so that registration may be repeated (recommended for at least 3 terms). Students should arrange assignments with instructors in advance.

250. General Physiology: A Molecular Approach. (4) Prerequisite: Consent of the instructor. A working knowledge of elementary physics, calculus, physical chemistry, and biology is expected. Lecture: 4 hrs. Bots, Burbank

This course introduces a physicochemical approach to the mechanisms of fundamental cellular processes-transport, excitation and conduction, contraction, and regulation.

250. Research. (1-8) F., W. Prerequisite: Consent of the instructor. Ganong and Staff

Research in endocrinology carried out in the Department of Physiology.

298. Thesis. (0) F., W. Prerequisite: Advanced to candidacy and permission of the graduate adviser. Staff

For graduate students engaged in writing the thesis for the masters degree.

299. Dissertation. (0) F., W. Prerequisite: Advancement to candidacy and permission of the graduate adviser. Staff

For graduate students engaged in writing the dissertation for the Ph.D. degree.

300. Practicum in Teaching Physiology. (0) F., W. Prerequisite: Previous training in physiology and consent of the instructor. Lecture: Variable. Laboratory: Variable. Staff, Cumore

Practice in teaching physiology under faculty supervision. In various quarters, students will supervise laboratory work, conduct conferences, deliver lectures, and assist in preparing and grading examinations, according to their stage of development.

351. Scientific Writing. (0) F. Prerequisite: Consent of the instructor. Enrollment limited. Lecture: 3 hrs. Morrow, Cumore

Seminar-workshop program designed to show students how they can best put into words, tables, and figures what they have done in the laboratory--and how to do so in a concise, precise, and logical form.

352. Group Practice in the Art of Lecturing. (0) F. Prerequisite: Consent of the instructor. Enrollment limited. Lecture: 1-1/2 hrs. Staff, Cumore, Coderidge

A course in teaching techniques. Students present short lectures and video tapes of these presentations are analyzed by self- and group-criticism.

PREVENTIVE DENTISTRY AND COMMUNITY HEALTH

111. Changing Aspects of Dental Practice. (1) F. Lecture: 1 hr. Wycloff

A survey course to acquaint the student with current social and professional problems in dentistry. Includes identifying the patient community, national and professional needs, and how they are met.

120. Behavioral Science. (1) W. Lecture: 1 hr. Wycloff

This course is an introduction to the basic concepts, theories and findings of the social sciences. The application of these concepts and modes of reasoning to pressing social problems and the delivery of health services is the dominant theme.

121. Research Design. (1) F. Lecture: 1 hr. Wycloff

A course which presents basic principles of biostatistics. Introduces the concept of experimental reliability, fundamental principles of sampling techniques, selection of data, and variability. The student plans, develops, and writes a research protocol.

148. Community Health Problems and Practice. (1) F. W. Prerequisite: Clinic-senior, 24 hour rotation. Wycloff

Dental students will work in community clinics which serve deprived areas. Both seminars and supervised clinical experience will be designed to provide the student with the opportunity to understand social, and cultural factors to the people they will be treating.

168. Community Health Methods. (2) F. Field trips and case studies. Silberstein and Staff

Dental hygiene students will work in the North Oakland community with the Children and Youth Project staff. Students will be assigned area schools where an oral screening will be done. Students will also make home visits.

180. Applied Preventive Dentistry. (2) Prerequisite: 2 hours. Laboratory: 2 hours. Gold.

Applied preventive dentistry will examine the principles, philosophy, and methodology of preventive dental practices. Literature reviews, discussions, nutrition analyses, special projects, visits to dental practices will be employed to understand the workings of a successful preventive dental practice.

186. Clinical Nutrition and Preventive Dentistry. (1) Lecture: 1 hr. Goodson, Silverstein

Instruction in the use of nutritional counseling and the phase microscope as an adjunct to preventive dentistry. Students will learn how to perform a computerized nutritional analysis on clinical patients.

188.1A-B. Community Health Methods. (2-2.5) F., W. Prerequisite: Lecture: 1 hr. Laboratory: 3 hrs. Wycoff and Staff

Four students will assist the staff of the Hunter's Point-Bayview Community Health Service. Each will be assigned with a medical student to a family health team. Students work with team members in the neighborhood identifying health problems and arranging care.

199. Laboratory Project in Preventive Dentistry and Community Health. (1-5) F. W. Prerequisite: Consent of the instructor. Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

PSYCHIATRY

110. Care Clerkship in Psychiatry. (1/2 per week) F., W., Prerequisite: Psychiatry 130 and Medicine 150. Boatman

Four-week assignment to an outpatient or inpatient psychiatric service. Students, under supervision, are responsible for patient evaluation and participate in treatment planning and implementation. Attend seminars related to clinical work and field visits to other types of psychiatric facilities.

130. Basic Clerkship: Communication Skills. (2) F. Brodsky

Provides students with examples of different interviewing techniques and history-taking processes. Includes an attendance of different ages, illnesses, and sociocultural backgrounds. Students interview patients directly and through the medium of television tapes, engage in supervisory and self-evaluative sessions.


Introduces psychiatry as a clinical discipline. Basic science data relevant to behavioral disorders are briefly presented. The main focus is on interviewing techniques and description of psychopathological syndromes. Lectures, interviews of patients, videotape demonstrations, seminars and independent study are covered.

140.01. Clinical Psychiatry. (1/2 per week) F., W. Prerequisite: Consent of the instructor. L. Epstein

Participation under close supervision in keeping with student's level of experience and special interest in clinical psychiatric treatment of adult or child inpatients or outpatients.

140.02. Clinical Clerkship. (1/2 per week) F., W. Prerequisite: Consent of the instructor. L. Epstein

Clinical clerkship in off-campus hospitals approved by the Dean and the chairman of the department.

150.01. Psychiatric Research. (1/2 per week) F., W., Prerequisite: Consent of the instructor. Callaway

Participation according to student's level of experience in experimental work in the department in such areas as neurophysiology, operant conditioning, psychopharmacology, immunochemistry, and nonlexical communications. All work is under the close supervision of faculty members.

150.02. Block Elective in Human Development. (1/2 per week) F., W., Prerequisite: Clark, Lownes and Staff

Guided reading and research in human development. Work may be focused upon culture and personality studies; the social psychology of human development; socialization, including the role of values; adaptive processes at various stages of the life cycle.

160.01. Psychopathology of Speech and Language. (2) F., W. Prerequisite: Consent of the instructor. Outward

A clinical course focusing on speech and language pathology. Students' eligibility depends on previous experience with psy-

Students participate in diagnostic rounds and conferences of the Psychiatric Liaison Service. The ambulatory patients of the Psychiatric Outpatient Clinic are seen under supervision for the purpose of developing psychotherapeutic skills for the practice of comprehensive medicine.

160.03. Psychotherapy Under Supervision. (2) F, W. Sp. Prerequisite: Consent of the instructor.

Students participate in psychotherapy of a psychiatric outpatient under supervision of individual instructor.

160.04. Personality Assessment in Clinical Psychiatry: Theory and Practice. (1) W. Pre-

requisite: Psychiatry 150.

Tutorial participation with a senior psychiatrist in studies of outpatients in the Adult Psychiatric Clinic. Participation in weekly group sessions designed to increase awareness of interpersonal dynamics. Directed reading, seminar discussions, and demonstrations.

160.05. Clinical Problems. (1) W. Pre-

requisite: Psychiatry 150 and consent of the instructor.

Patients referred for consultation and treatment are presented at seminars. Patients are evaluated by examination, testing, and medical and social documents. Students prepare presentations by discussion with the resident psychologist, and examining the patient. Reports are prepared discussing experience and conclusions.

160.06. Introduction to Interviewing and Evaluation. (1.5) F, W. Sp. Prerequisite: Psychi-

atry 130. Seminar: 2.5 hours. Brodsky

An opportunity to observe and audit diagnostic and psychiatric interviews conducted by a faculty member and one patient to continue for each academic quarter. Discussions will follow the interviews. Limited to three students per instructor.


Brodsky

Practical experience in psychotherapeutic work with outpatient cases to increase the student's understanding of psychopathology, psychotherapy, and psychotherapists. Students are assigned one patient a week under supervision of a faculty member. Assigned reading, seminars, and chart writing.

160.08. Psychosomatic Case Conference. (1.5) F, W. Sp. Prerequisite: Consent of the in-

structor. Murphy

Cases will be presented in rotation by social work students. Emphasis will be placed on the interaction between psychological, social, and somatic factors. Although primarily intended for social work students, psychiatrists, residents and other mental health professionals are welcome.

160.09. Psychiatric Diagnosis. (1) F, W.

Lecture 1 hour. Berlinger

Langley Porter inpatients are interviewed and their characteristics and case histories used as the basis for discussions of psychiatric diagnosis. A seminar format allows for free discussion between students and instructors.

170.01. Introduction to Suicideology. (2) F, W. Sp. Prerequisite: Consent of the instructor.

E. Cohen

Suicide is viewed from a multidisciplinary approach in weekly seminars led by persons actively working in this field. Students will investigate an aspect of the problem which particularly interests them, and will present their findings to the group.

170.02. Seminar: Views of the Meaning of Psychosis. (1.5) F. Prerequisite: Consent of the instructor.

Feinberg and Kneller

This is an elective seminar designed for students who have an interest in exploring in depth the phenomenon of psychosis, from the biological, Freudian, communications theory and Jungian-Liangian points of view, with readings and clinical experience in each area.

170.03. Group Interaction Process. (1) F, W. Sp. Prerequisite: Consent of the instructor.

C. Girouard and Duncan

A weekly session designed to increase psychological perception and self-awareness in interaction of others. Both group and individual dynamics will receive attention. This course may be taken repeatedly for credit.

170.04. Pediatric Psychiatry. (1) F. Pre-

requisite: Consent of the instructor. Bradman

Seminars sketch normal development from infancy through adolescence to point out potential psychopathogenesis in the various phases of development.

170.07. Mental Health Aspects of Social, Physical, and Sensory Deprivation. (2) F. Pre-

requisite: Psychiatry 150. Schlesinger, Meadow

Compare and contrasts influences of cultural, physical, social, and sensory deprivation on an individual's emotional development. Emphasis on social stigma and family response to handicapped child; nature of problems and treatment of handicapped groups, development, and utilization of community resources.

170.08. Social Psychiatry Seminar. (1) F, W. Prerequisite: Psychobiology of Psychiatry 130.

Russell

Areas of social psychiatry—the family, small groups, organizations, institutions, social structures—are presented. Emphasis is primarily intended for students preparing the student for dissertation. Participants from other fields present an interdisciplinary approach. Time for individual discussion with the seminar leader can be arranged.

170.10. Information Processing in the Human Infant. (2) F, W. Sp. Prerequisite: Consent of the instructor. Feldman, Ostwald

Computer analysis of CNS responses to auditory and visual output. Quantification of vocal output is achieved by the use of advanced acoustic techniques. Understanding of perceptual-expressive behavior of the maturing child is the goal.


170.12. Interdisciplinary Seminar on Analysis of Diagnostic Interviews. (1.5) F, W.

Sp.

Life histories are evaluated from the standpoint of the relationship between the individual's perceptions of his social world and adaptation, the quality of interpersonal relationships, and the relationship between various dimensions of self-concept and other indicators of adaptation.


Colman

Investigate current concepts useful in implementing behavior change systems (psychology, hospital wards, community mental health centers, etc.). Theoretical contributions from organizational models, operant conditioning, operations research, and hypothetical theories, etc., will be applied to specific design situations.


Colman, Duncan

An intense, personal experience in funda-
mental group phenomena through a study of "here and now" group behavior, followed by application of principles thus derived to group settings in the medical school environment.

170.15. Substrates of Behavior. (2) Sp.

Herz

This elective course is designed primarily for students choosing the behavioral sciences pathway and is concerned with the biological determinants of behavior. Relationships between behavior and neurophysiology, neuroanatomy, biochemistry, genetics, and endocrinology will be examined.


Cohen

Purpose of this course is to enable medical students to continue the study of the problems of morbidity and mortality resulting from self-attunitive. Subjects to be covered and the modes of analytic will be determined by the interests of the students.

180. Sexual Problems in Medical Practice. (1) W. Vandercook

Adult, sexual, behavioral, and clinical aspects of human sexuality will be covered in weekly lectures and seminar periods. Lectures will present didactic material and problems, will focus on clinical, moral, and ethical problems related to sex and medical practice.

181. The Black Experience. (2) Sp. Pre-

requisite: Consent of the instructor.

Gobin

Seminar discussions concerning the varie-
ties of interpersonal experiences of black people which are relevant to understanding their personality development. This is of importance in the initiation and maintenance of an effective doctor-patient relationship in any medical specialty.


Hartog

A series of seminars discussing transcultural psychiatry from the alien community and epidemiology to folk healing. The relevance to American urban and ethnic issues will be emphasized. Examine methodological, and possibilities for research will also be presented.

188. Supervised Study in Psychiatry. (1-5) F, W. Sp. Prerequisite: Consent of the instructor.

L. Epstein and Staff

Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.
   L. Epstein and Staff
   A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

   Consideration of situational and interac-
   tional approaches to changing human be-
   havior. Conditioning, behavior modification,
   cognitive restructuring, group process, and
   other models will be compared. Therapeutic,
   educational, organizational, and social settings
   for change will be examined.

   LPNI Simon
   Faculty members and visiting professional
   persons present new developments in psychiatry
   and related fields.

410. Clinicopathological Conference. (3) 
   Su, F, W, Sp. Elective 
   LPNI Malamed
   Cases are presented by faculty. Clinical
   aspects are stressed and the neuropathologi-
   cal findings are demonstrated. Students take
   an active part in the discussions of correlation
   between the neuropathological and clinical
   findings with emphasis on their neuropathologic
   significance. Parallel reading is required.

402. Orientation to Psychiatric Research. (3) 
   Su, W, Sp. Elective 
   LPNI Callaway
   Guided tours through the research facilities
   of Langley Porter Neuropsychiatric Insti-
   tute and introductory presentations of research
   projects by individual investigators.

404. Personality Assessment. (1) F, W. 
   LPNI Fisher
   Seminar presents techniques of assessing
   personality and intellectual functions in rela-
   tion to psychodiagnostic evaluations and study
   of prognosis with psychotherapy. Discussion of
   development, design, and theory of clinical
   psychological methods and clinical applica-
   tions and demonstrations with appropriate
   case material.

   Elective. Prerequisite: Psychiatry 400.
   LPNI Fisher
   Focus is on personality theories other than
   Freudian; e.g., Lewin, Allport, Sheldon, and
   Rogers. Course includes an examination
   study, and discussion of contemporary per-
   sonality theories, their concepts, systematic
   applications, and behavioral sciences, and re-
   search potentials. Parallel reading is required.

407. Research in Behavioral Sciences. (1–
   LPNI Callaway
   Course consists of supervised clinical and
   basic research in behavioral abnormalities,
   psychopathology, and experimental psychia-
   try. Specific subjects for research are chosen
   in conjunction with members of the staff.

   Elective. 
   LPNI Yeager
   Includes techniques of clinical
   electroencephalography and the interpretation
   of electroencephalograms.

   Elective. 
   LPNI Malamed
   Discussion of the neuropathology of
   neurological and psychiatric disorders with
   illustrations from gross and microscopic ma-
   terial.

410. Review of Social Psychiatry. (1) Su, 
   LPNI Rushch
   Brief review of the various fields of con-
   temporary behavioral science and social psychi-
   atry. Parallel reading is required.

   Su, F, W, Sp. Required of second, third,
   fourth, and fifth-year residents in training
   for research. 
   LPNI Rushch
   Residents pursue original investigations in
   the fields of social psychiatry and allied
   subjects. They are expected to set up a re-
   search project, make observations, record and
   analyze data, engage in relevant reading, and
   present findings and conclusions with the
   senior staff.

412. Jungian Psychology. (1) F, W. 
   Sp. Elective. 
   LPNI Wheelwright
   Seminar includes discussion of C. G.
   Jung’s Analytic Psychology, systematic con-
   sideration of the historical development,
   theory, and clinical applications. Illustrative
   case material is presented; residents partici-
   pate in presentation and discussion of clinical
   material. Parallel reading is required.

413. Introduction to the Computer. (2–3) 
   Starkweather
   Seminar presents a review of digital comput-
   ing and its applications in psychiatry. Resi-
   dents explore these concepts through their
   own programming efforts.

414. Literature in Child Psychiatry. (1) 
   LPNI Philips
   Survey of the literature in child develop-
   ment and child psychiatry. Parallel reading
   is required.

   LPNI Callaway
   Discussion of readings of major prob-
   lems in contemporary psychiatric research.
   Advance registration is required.

418. Research in Computer Simulation and 
   Elective. 
   LPNI Starkweather
   Includes supervised research with computer-
   ized methods for the simulation of behavior in
   clinical interactions. Applications of computers to
   the analysis of human communication.

420. Child Development and Personality. (1) 
   F. Required of child psychiatry first-year
   residents. Elective for all other residents.
   LPNI Malamed
   Seminar focuses on the psychological
   study of the child, clinical and experimen-
   tal methods of investigation, and research in
   clinical child psychology. Content includes
   learning theory and assessment of intelli-
   gence and personality. Parallel reading is
   required.

420. Clinical Psychiatry. (1½ per week) 
   Third-, fourth-, and fifth-year residents.
   O. Brown
   Seminar and field work deal with the
   theory and practice of community psychiatry
   under the supervision of the senior staff. Semi-
   nars and field work cover appropriate major
   seminars of community psychiatry. Parallel
   reading is required.

430. Adult Psychiatry. (1½ per week) 
   LPNI Harris
   Seminar and field work deal with the
   theory and practice of community psychiatry
   under the supervision of the senior staff. Semi-
   nars and field work cover appropriate major
   seminars of community psychiatry. Parallel
   reading is required.
4.5. Basic Psychosocial Concepts. (1.5) F. W., Sp. 1.5
LPNI Annini
Seminar offers instruction in the theoretical bases of psychosocial analysis.

46. Conditioning and Behavior Modification. (2) F. Elective. 1.5
LPNI Stone
Systematic application of the principles of operant and respondent conditioning to the analysis of behavior. Emphasis will be placed on problems of occurrence of various responses, classification as a function of reinforcement, discrimination, generalization and motivational states of the organism.

47. Intensive Psychotherapy in Psychosomatic Disorders. (2) Sr. 1.5
F W, Sp. Elective. 1.5
Berliner
Continuous case seminar for residents assigned to the psychiatric liaison service. Emphasis is placed on the role of intensive psychosocial psychotherapy within the framework of comprehensive medicine.

48. Seminar in Gerontology. (1.5) F. W. 1.5 Sp. Elective. 1.5
LPNI Lownenthal
Theory and research in the social and psychological study of aging. Research findings based on hospital and community samples are presented by the Adult Development Program. For upper division and graduate students whose research or clinical work includes the elderly. Parallel reading required.

49. Speech, Hearing, and Psychology. (1) Sr. 1.5
F W, Sp. Elective. 1.5
Ostwald
Diagnosis and treatment of psychiatric problems associated with speech, hearing, or language difficulties. Supervised clinical work with selected patients according to residents’ level of experience. Instruction with such alternatives as counseling and self-help communication systems as manual signing or voice printing.

50. Problems in Psychotherapy. (1.5) F. Prerequisite: For second- and third-year residents in psychiatry. 1.5
Wallaert
Seminar in problems in psychotherapy within a psychodynamic framework — differential treatment, beginning phase, special problems of specific patient groups (geriatric, adolescent, alcoholic, sexual-deviant), indications for hospitalization, and problems of transfer and termination, including issues related to psychotherapy research.

51. Issues in Supervision. (1.5) W. Sp. 1.5
Wallaert
Seminar in supervision as a helping process, exploration of differences from other interpersonal helping processes, especially therapy and education. Limited to trainees who are assuming supervisory roles.

180.85. Advanced Psychology for Dental Hygienists. (1) Sp. Prerequisite: Psychology 160. Seminar: 1 hour. 1.5
Plano"field seminar discusses the emotional aspects of interpersonal transactions among office personnel, therapists, and patients.

181. Group Dynamics. (2-4) F. W. 1.5
Adelson
Theories of group process and leadership: methods for studying group decision-based principles for understanding group functioning: overview of research: dynamics of planned change. Laboratory provides opportunity for increasing insight and skill as a participant-observer in a small group.

183. Supervised Study in Psychology. (1-5) F W, Sp. 1.5
Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

200. Self and Society: Theoretical Bases for Social Psychiatric Inquiry. (2-4) F. Sp. Prerequisite: Consent of the instructor. Lecture: 2-4 hours. 1.5
Adelson
Review of major theories of self and society, how these relate to social psychiatric research, and development of a conceptual framework for understanding diverse social problems and manifestations of deviant behavior.

204-B-C. Seminar in Medical Psychology. (2-2-2) Yr. Prerequisite: Consent of the instructor. 1.5
Morrison, Harris
Seminar discussions of clinical work in medical psychology and psychiatry; reports of research and current literature by students and staff, and lectures by faculty. Parallel reading required.

202. Basic Physiological Psychology. (2-3) W. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 0-3 hours. 1.5
Peck
Designed for the student with minimal preparation in physiology, anatomy, or physiological psychology. This course emphasizes the role of brain processes in emotion, motivation, attention, learning, and species-typical behavior patterns.

203-B-C. Community Psychology. (2-2-2) Yr. Prerequisite: Consent of the instructor. Lecture: 2-3 hours. 1.5
Kalish, Adelson
A survey of basic and current literature in psychological and community mental health. Optional involvement in community laboratory or special student projects.

204A. Introduction to the Computer. (3) F. Prerequisite: Consent of the instructor. Lecture: 1 hour. Laboratory: 6 hours.

The computer is described as a useful tool for analysis and controlled experiment. Students learn to read and write programs of moderate difficulty.

204B. Computer Simulation of Personality and Human Interaction. (3) F. Sp. Prerequisite: Consent of the instructor, and Psychology 204A or equivalent background. Lecture: 1 hour. Laboratory: 6 hours.

The development and testing of theoretical models of personality explored by means of computer programs. The use of computers for simulation and symbolic manipulation.

205. Advanced Seminar on Decision Theory. (2-4) Sp. Lecture 2 hours. Laboratory: 0-6 hours. 1.5
Class
Lectures and laboratory studies on psychological aspects of decision making. Describes the concepts of mathematical and Bayesian models, objective and subjective probability, utility, games theory, decision structure, and levels of decision. Application to health care systems will be stressed.

206. Aggression and Violence. (2) F W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. 1.5
Peck, O’Sullivan
Biological, psychological, and social studies of violence and aggression will be reviewed in a seminar format.

207. Conditioning and Behavior Modification. (2) F. Prerequisite: Consent of the instructor. Lecture: 2 hours. 1.5
Introduction to basic principles and concepts of respondent and operant conditioning. Examination of complex human behavior, such as intellectual function and psychopathology within this framework. Consideration of behavior modification techniques such as psychotherapy and education.

208A-B. Psychology of Thinking and Information Processing. (3-5) W. Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours. Laboratory: 3 hours. 1.5
Stone
Major approaches to the fields of human perception and cognition, viewed as processes by which humans obtain and use information. Emphasis will be placed on individual differences. Students will prepare and participate in demonstration experiments.

209A-B. Uses of the Computer in Psychology. (2-2) W. Sp. Prerequisite: Consent of the instructor, Psychology 204A or equivalent and consent of the instructor. Lecture: 2 hours. 1.5
Starkweather
Seminar presents a review of digital computing and its applications in psychology. Students explore these concepts through their own programming efforts.

210A–B–C. Interdisciplinary Seminar. (2–2–2) Yr. Prerequisite: Consent of the instructor. Lecture: 2 hours. Callaway, Perks

Visiting scientists present current research in anatomy, biochemistry, pharmacology, physiology, and psychology which contribute to the understanding of the neurological basis of human behavior. Students prepare for each visit to the seminar by reading and discussing pertinent publications.

213A–B–C. Seminar on Communication Through Nonverbal Behavior. (5–5–5) Yr. Prerequisite: Consent of the instructor. Lecture: 5 hours. Ekmann

Research and theories on facial expression and body movement in relation to emotion, personality, social interaction, and culture.

214A–B–C. Psychophysiology. (2–2–2) Yr. Prerequisite: Consent of the instructor. Lecture: 2 hours. Kamin

Psychophysiology: Analysis of the relationships between physiological and behavioral processes primarily in the human. Special consideration is given the physiological aspects of feelings and emotions and their modifiability.

215. Personality. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Fisher, Gould, Atkinson

Survey of major theories of personality, structure, development of personality, and research in personality.

216. Readings in Culture and Personality. (3) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours. Gould

Social structure, culture and personality and the development of projective methods and personality assessment techniques in studying culture and society.


Nature, development, and treatment of major behavior disorders (brain syndromes, functional psychoses, drug addiction) which result in disabling disturbance of interpersonal relations. Contemporary theories of personality development and clinical study of the major disorders.

218. Memory Processes. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Hearz

Theories of memory storage processes. Consideration of human and animal experimental data about agents which facilitate or disrupt memory functions.

219. Tests and Measurement. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Callaway, Perks

Psychological test construction, including sampling, item analysis, standardization, reliability, and validity.

220. Seminar in Growth and Behavior. (4) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 4 hours. Schau

An interdisciplinary working graduate seminar to cover the relevant literature from infancy to old age with a theoretical focus on psychosocial ego psychology in the light of related fields (anthropology, sociology, history, physiology, and genetics).

221A–B. Community Psychology. Basic Concepts, Major Processes, and Core Systems. (2–4–2–4) W, Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Laboratory: 0–6 hours. Adelson

Introduction to community psychology and to the basic concepts, major processes, and core systems with which specialists in community psychology, community health and other allied fields are concerned. Intensive study of particular processes and systems.

223. The Special Biography. (4) F. Prerequisite: Consent of the instructor. Schau

Seminar in historical change as seen in the lives of charismatic leaders. Lives of Gandhi, Luther, Malcolm X, Newton, Belvoir and Freud will be examined. Students are expected to prepare short studies.

224. Clinical Interview and Research Strategies. (4) Sp. Prerequisite: Consent of the instructor. Schau

Research seminar on the use of clinical procedures in research. The staff’s exploration of Projective Techniques (TAT) in cultural, historical, and clinical research to serve as a focus for participants’ presentation of related clinical procedures or techniques.

225. Tutorial in Psychological Statistics. (2–4) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 1–3 hours. Laboratory: 0–3 hours. Ornstein, Gailin

Reading and practice in methods of data analysis, tailored to the background and needs of the particular student.

228. Research on Drug Abuse. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 1 hour. Laboratory: 3 hours. Hargreaves

Directed research on various topics related to drug abuse, its treatment, and its prevention.

229. Attention and Perception in Schizophrenia. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Atkinson

This seminar will review the literature related to attention and perception in the schizophrenic process, with emphasis on implications for methodology and future research directions.

230. Attention and Selective Perception: Neuropsychological Aspects. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Gailin

Brain mechanisms relating to attention. Information from animal and human studies with brain stimulation, single neuron recording, electroencephalography, measurement of cortical evoked potentials, and the effects of brain lesions.

231. Brain Hemisphere Specialization. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Gailin

Review of evidence from studies of human brain injuries and “split brain” surgery. Localization of cognitive style: analytic vs. synthetic modes of experiencing the world; unity and duality in consciousness.

232. Clinical Prediction. (3) W, or Sp. Prerequisite: Consent of the instructor. Lecture: 3 hours. Young

Problems in the validation of clinical psychological procedures; specification of the measurement characteristics of psychological data; content of methods of information processing; analysis of criterion behavior; efficacy of clinical judgment.

233. Prenatal Determinants of Learning Ability. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Gailin

Seminar discussion of various experimental treatments which can result in enhanced and consistent acquisition of learning abilities when administered perinatally.


Selected topics in the areas of perception, memory, problem solving, and other cognitive processes. The student will be expected to produce a critical and synthetic review of some aspect of literature.

235. Psychotherapy Research. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. O’Sullivan

Review of research studies of the processes and effectiveness of psychotherapy; consideration of methodological issues.

238. Biochemical Research in Neural Tissue. (1–3) F, W, or Sp. Prerequisite: Consent of the instructor. Laboratory: 5–9 hours. Eiman

Supervised research experience including an introduction to biochemical and histological techniques for the study of neural tissue.

239. Investigation into Human Consciousness. (3) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 5 hours. Ornstein

Readings in the psychology and physiology of conscious experience.

240. Readings in Psychopathology. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Hargreaves

Special topics related to research on the etiology, diagnosis, and treatment of severe psychopathology.

245. Research in Community Psychology. (2–4) F, W, or Sp. Prerequisite: Psychology 205C or equivalent and consent of the instructor. Lecture: 1 hour. Laboratory: 5–9 hours. Adelson, Kallis

Research in community psychology and community mental health, including community mental health centers, mental health systems analysis, and program evaluation. The student must be involved in an ongoing project.

246. Environmental Psychology. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Mainstrom

Introductory survey of human physiological and emotional response to the physical environment; effects of climate, pollution, noise, crowding, and other urban physical features; research strategies for studying human psychophysiology in natural and artificial environments.

247. Readings in Behavioral Neurochemistry. (2) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Mainstrom

Readings in chemistry related to psychological phenomena; the biochemical bases of the effects of drugs, hormones, and disease states on cerebral function.

249. Special Studies in Psychology. (1–8) F, W, or Sp. Prerequisite: Consent of the instructor. Lecture: 2 hours. Staff

Students select special problems to investigate on an individual or collaborative basis. These studies may be conducted through readings, the collection and analysis of empirical data, or the development of conceptual analyses or methodologies.
Participation in examination of cancer patients under treatment in radiation therapy and in rounds, conferences, and clinics.

140.03. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B. Phillips

Clinical clerkship is approved hospital by special arrangement with the Dean's Office and the Chairman of the Department of Radiology.

140.04. Clinical Clerkship in Nuclear Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B. Staff

Observation of basic nuclear medicine procedures and participation in diagnostic tests employing radiotracers. Completion of Radiology 140.01, 140.12, 170.08, 170.09, meet the State of California requirements for licensure to use radioactive isotopes in clinical medicine.

140.05. Roentgen Diagnosis at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B. Davidson

Students serve a clerkship in the Diagnostic Division of the Department of Radiology. They observe performance of radiologic procedures, interpretation of films, attend conferences and learn basic philosophy of conducting radiologic examinations and the rules of interpretation.

140.06. Clinical Clerkship in Radiation Therapy at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B. Castro

Participation in examination of cancer patients under treatment in the Gelobter and Tumor Institute at Mount Zion Hospital. Students participate in rounds, conferences, and clinics, and see demonstrations of the use of newer radiotherapeutic techniques.

140.07. Diagnostic and Therapeutic Radiology. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B. Margulis

Clinical clerkship in roentgen diagnosis and therapeutic radiology. Two weeks are spent in roentgen diagnosis and two weeks in therapeutic radiology. Some of the material in roentgen diagnosis and clinical clerkship in therapy is included.

140.08. Clinical Clerkship in Cardiovascular Radiology. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B. Carlson

Cardiovascular radiology provides an opportunity to become acquainted with the radiologic studies of the cardiovascular system through active participation in the examinations and their interpretation.

140.09. Clinical Clerkship in Diagnostic Radiology at SF. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 151A-B. Minagin

Clinical clerkship serves a clerkship in the Diagnostic Section of the Department of Radiology. They observe performance of radiologic procedures, interpretation of films, attend conferences, and learn basic philosophy of conducting radiologic examinations and the rules of interpretation.

140.10. Roentgen Diagnosis at F. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 151A-B. Russell

Clinical clerkship in diagnostic radiology including daily seminars in radiology of the chest, bones, genitourinary tract, and neuroradiology. Students will observe in fluoroscopy and special procedures including catheterization, arteriograms. Modification of the course material will be arranged to suit individual needs.

140.11. Radiology Clerkship at C. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 151A-B. Burchene

Includes all types of radiologic procedures, pediatric radiology, and radiation therapy with emphasis on clinical radiology as a consultant to other specialists as related to use and indications for all radiologic techniques.

140.12. Radioactivity Laboratory. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B. Consent of the instructor. Kaufman, Lamel

Course is designed to teach accurate measurement techniques for biomedical purposes.

140.13. Radiology and Medical Diagnosis. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 151A-B. Ros

For second-year medical students, immediately following Medicine 131A-B, to help acquire knowledge and attitudes that ease transition from studies to clinical medicine. Radiographs with case presentations are used to help learn mechanisms of disease and clinical judgment.


Informal review and introduction to basic radiologic techniques and anatomy with emphasis on comparison between normal organ systems and pathologic organ systems. This course may be taken repeatedly for credit.

170.01A-B-C. Introduction to Research on Learning. (2-2-2) F, W, Sp. Prerequisite: Consent of the instructor. Ros

Designed to acquaint students with the practical aspects of research, specifically research on learning. Learn vocabulary, recognize valid problems, and valid results, get insight into the problem of method.

170.02. Radiobiology: Radiation Effects on Genes and Chromosomes. (2) W. Prerequisite: Consent of the instructor.

Concepts and mathematics of target theory related to damage of genetic apparatus. Biophysical and biochemical studies on induction of inorganic and intergenic mutations that give insight into the structure of chromosomes and function of radiation with biological material.

170.03. Radiobiology: Cell Population Dynamics. (2) Sp. Prerequisite: Consent of the instructor.

An analysis of steady state and expanding cell populations in relation to cell cycle kinetics, cell-cell interactions, organization, and regulatory factors.

170.05. The Anatomy of Anatomy. (1-2) Su, F, W, Sp. Prerequisite: Anatomy 100 must be taken before or concurrently with this elective. Ros

A lecture course limited to small groups, with opportunity for self-instruction in the learning laboratory, on selected aspects of anatomy and its clinical applications, aiming to show the usefulness and delights of knowing normal anatomy and its variants.

170.06. Pathology of Internal Organs. (1-2) Su, F, W, Sp. Prerequisite: Consent of the instructor. Ros

A lecture course limited to small groups, with opportunity for self-instruction in the learning laboratory, on selected aspects of gross morbid anatomy of internal organs and the natural history of their ailments. A study of disease as a process in time.


Limited to eight students. Using radiographs, this course will develop anatomy in the living. With numerous examples it will illustrate the concept of individual variations and will show the usefulness to physicians of precise knowledge of anatomy.

170.08. Nuclear Medicine Physics. (3-2) Su, F, W, Sp. Prerequisite: Given concurrently with Radiology 170.05.

Perez-Mendez, Kaufman

Introduction to the physics of radiologic nuclear instrumentation, and gamma ray imaging techniques.


Price and Staff
Introduction to basic nuclear medicine diagnostic procedures, both in vivo and in vitro, and therapy with radiopharmaceuticals.

**198. Supervised Study in Radiology. (1–5)** F, W, Sp. Margulis and Staff. Laboratory research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

**199. Laboratory Project in Radiology. (1–5)** F, W, Sp. Margulis and Staff. A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

**400. Seminar in Diagnostic Radiology.  (1–3)** F, W, Sp. Goldberg. Faculty and graduate students in radiology and department of radiology and discuss various diseases of all systems of the body. Residents prepare case histories, present findings, and correlate surgical and laboratory work, special studies, laboratory, and medical research.

**401. Diagnostic Case Rounds. (2)** Su, F, W, Sp. Amberg. Films of interesting cases from the daily work are presented and discussed. Roentgenograms and histologically and pathologically proved cases are correlated with the gross and microscopic pathologic findings.

**402. Speciality Seminars Concerned with Diagnosis. (3)** F, W, Sp. Margulis. Seminars require preparation and presentation of roentgen findings on patients under discussion at medical, surgical, pediatric, obstetric, and gynecologic departments and conferences and seminars on congenital heart disease, diseases of the gastrointestinal tract, and orthopedics.


**405. Radiologic Research. (1–8)** Su, F, W, Sp. Elective. Numerous research projects are being conducted in the department and facilities are available for new ones. Residents are encouraged to take advantage of these opportunities.

**406. Elements and Clinical Applications of Radiation Physics.  (2)** Su, F, W, Sp. Perez-Mendez. The elements of radiologic physics are studied in a series of lectures and problem assignments. The basic phenomena experienced in producing, measuring, and absorbing x-rays are illustrated. The course is designed to give residents in radiology the necessary background to practice radiology.

**407. Introduction to Radiobiology. (1)** Sp. Patt. A survey of basic concepts of radiation actions at various levels of biological organization. Lectures will be oriented to the radiologist resident and will include some glandular effects of radiation and tumor response.

**408. Radiology in Specialty Seminars. (5)** Su, F, W, Sp. SF Coulson. Interdepartmental seminars in which the radiologic picture of problem cases involving the specialty of the seminar and material prepared of previous years are reviewed. This course includes surgical and medical radiology, radiographic, cardiovascular, and all other areas including the departments.

**409. Radiology in Specialty Seminars. (3)** Su, F, W, Sp. SF Coulson. Interdepartmental seminars in which the radiologic picture of problem cases involving the specialty of the seminar and material prepared of previous years are reviewed. This course includes surgical and medical radiology, radiographic, cardiovascular, and all other areas including the departments.


**413. Pathology. (1)** Su, F, W, Sp. SF Minagi. Course includes presentation of pathologic material of special interest to radiologists with emphasis on the correlation of diagnostic X rays and pathologic findings and a study of the pathology of patients under radiation treatment.

**414. Physics of Diagnostic Radiology. (2)** F, W, Sp. Prerequisite: Radiology 406. Perez-Mendez. A seminar course with laboratory experiments designed to acquaint the student with current knowledge of physics applicable to diagnostic radiology. Topics to be covered include generation and extraction of radiologic information, image conversion, recording methods, and special purpose equipments.


**419. Growth Kinetics of Cells, Tissues, and Tumors. (2)** Sp. Cleaver, Patt. Analysis of cell population growth in tissues, tumors, and cultures. Detailed emphasis given to radiobiologic aspects (x-rays and their biologic effects) and experimental methods for studying cell proliferation in vivo and in vitro (e.g., autoradiography).

**420. Nuclear Medicine Seminars. (1)** F, W, Sp. Price. Rotating assignments of topics for discussion by residents in nuclear medicine training programs in all affiliated hospitals. Critical review of available information in each of the areas is used to provide a broad review of nuclear medicine for all trainees.


**424. Physics of Therapeutic Radiology. (1)** F, W, Sp. Prerequisite: Residents assigned to therapeutic radiology. Smith. A lecture-seminar course with some practical sessions to provide the resident with a basic knowledge of radiological physics with special reference to those aspects relating to therapeutic radiology.


**426. Clinical Diagnostic Radiology. (1½ per week)** Su, F, W, Sp. Margulis. Residents, under supervision, carry out radiological examination and interpretation of X-rays of patients referred from wards and outpatient clinics. The chief resident has certain administrative duties relative to the resident training program.

**427. Clinical Diagnostic Radiology. (1½ per week)** Su, F, W, Sp. Price. Residents, under supervision, are responsible for the diagnostic activities of the department including diagnostic consultations and reports, history-taking, and physical examination. In addition, the chief resident has certain administrative duties relative to the resident training program.

**428. Clinical Radiology. (1½ per week)** Su, F, W, Sp. SF Coulson. Residents are responsible for the diagnostic and radiologic activities of the department under the direction of staff radiologists including diagnostic consultations and reports, history-taking, physical examinations, radiology therapy, and follow-up of patients referred for therapy.

**429. Clinical Therapeutic Radiology. (1½ per week)** Su, F, W, Sp. UC Phillips. Residents are responsible for diagnosis, treatment, and follow-up of patients referred to radiation therapy from the wards and outpatient clinics. Residents assigned to therapy rounds include discussion of newly referred patients; chart rounds include the discussion of patients under treatment.

**430. Radiotherapy Laboratory. (1½ per week)** Su, F, W, Sp. Prerequisite: Residents assigned to nuclear medicine section and consent of an instructor. Course is designed to teach accurate measurement and radiation techniques for biomedic purposes.
REMOVABLE PROSTHODONTICS

1108-C. Elementary Complete Denture Prosthodontics. (3-5) W. Sp. Lecture, seminar, and laboratory; Variable: Totals: 7 hours per week. Prerequisite: Removable Prostheses 1106-C. Ausgaber

The parts of a removable partial denture and their functions are presented in seminar sessions. In the laboratory, instruction and experience is provided in fabricating a removable partial denture.

126.01. Partial Dentures. (3) W. Lecture, seminar, and laboratory; Variable. Totals: 7 hours per week. Prerequisite: Removable Prosthetic 1100-C. Fairchild

126.02. Intermediate Dentures. (3) W. Lecture: 1 hour. Laboratory: 6 hours. Prerequisite: Removable Prosthetics 1100-C. Fairchild

126.03. Clinic. (3) W. F, W. Seminar and clinic; Variable. Totals: 7 hours per week. Parker

Demonstration participation in constructing complete dentures for a patient.

130C. Orofacial Prosthodontics. (1) Sp. Lecture: 1 hour. Chertici and Staff

Biologic principles underlying prosthodontic treatment of patients with congenital and acquired malformations, defects, and dysfunctions. This will include the development of normal and abnormal speech related to prosthodontics. The basis for prosthodontic therapy in temporomandibular joint disorders is also presented.

139. Clinical Removable Prosthodontics. (1½) F, W. Sp. Prerequisite: Third-year standing in removable prosthodontics. Regli and Staff

Clinical instruction. Third-year lectures and seminars must be taken concurrently.

139.01. Treatment Planning and Partial Denture Design. (1) F, W. Sp. Prerequisite: Third-year standing. Hemphill

Treatment planning and design of removable partial dentures.

140. Clinical Removable Prostho-dontics. (½) F, W. Sp. Prerequisite: Removable Prosthetics 139. Regli and Staff

171A-B-C. Complete Prosthodontics. (4-4-4) F, W, Sp. Lecture: 1 hour. Laboratory and clinic: 9 hours. Regli, Parker and Staff

Instruction in clinical and laboratory procedures related to complete prosthodontics.

172.01A-B-C. Partial Prosthodontics. (4-4-4) F, W, Sp. Lecture: 1 hour. Laboratory and clinic: 12 hours. Regli, Parker and Staff

Instruction in clinical and laboratory procedures related to partial prosthodontics.

172.02. Partial Prosthodontics. (5) S. Lecture: 1 hour. Laboratory and clinic: 12 hours. Regli, Parker and Staff

173. Clinical Practice. (4) S. Laboratory and clinic: 12 hours. Prerequisite: Removable Prosthodontics 171A-B-C. 172.01A-B-C, and 172.02. Regli, Parker and Staff

Clinical practice on patients for partial and complete prosthetics.

174A-B-C. Complete Prosthodontics. (3-3-4) F, W, Sp. Lecture: 1 hour. Laboratory and clinic: 6 hours, F, W: 9 hours, Sp: 12 hours. Prerequisite: Removable Prosthetics 171A-B-C. Regli, Parker, McCormick, Wild

Instruction in clinical and laboratory procedures related to complete prosthodontics. Course will include in-service hospital treatment at Veterans Hospital, San Francisco.


176. Special Study for Postdoctoral Students. (1-5) F, W. Sp. Research: 3-5 hours. Regli

Original investigation in the field of removable prosthodontics.

177. Prosthodontics Seminar. (4) F, W. Sp. Seminar: 4 hours. Prerequisite: Students in Removable Prosthodontics Certificate Program must register for this course each quarter and summer session for entire program. Regli, Parker and Staff

Review of the literature related to prosthodontics.

180. Prosthodontics. (1) W. Lecture: 1 hour. Prerequisite: Removable Prosthetics 150C. Brigante and Staff

Content varies to accommodate areas of current interest to fourth-year students in the field of removable prosthodontics. Information revolves around clinical judgment, evaluation of patients, immediate denture sequence, dental laboratory relations, treatment of the aged, aberrant cases, discussion of literature.


Continues clinical experience at the same level.


Advanced undergraduate instruction in clinical procedures in complete denture prosthodontics.

189.04. Maxillofacial Prosthetic Rehabilitation. (1-2) F, W, Sp. Clinic: 3-6 hours. Prerequisite: Consent of the instructor and Student Status Committee. Curtis

Maxillofacial prosthetic rehabilitation. Treatment planning and construction of prosthodontic devices and correction of intraoral and extraoral defects.

190. Laboratory Project in Prosthodontics. (1-5) F, W, Sp. Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the division.

190.04. Maxillofacial Prosthetic Rehabilitation. (1-2) F, W, Sp. Clinic: 3-6 hours. Prerequisite: Consent of the instructor and Student Status Committee. Curtis

Maxillofacial prosthetic rehabilitation. Treatment planning and construction of prosthodontic devices and correction of intraoral and extraoral defects.

RESTORATIVE DENTISTRY

171A-B-C. Advanced Restorative Dentistry. (3) Yr. Lecture: 1 hour. Clinic: 6 hours. Schuchard, Staff

Seminars and current literature review correlating basic and preclinical science with the practice of restorative dentistry. Selected cases requiring medical and dental diagnostic procedures and treatment plan will be presented.

173. Postdoctoral Clinical Practice. (2) S. Clinic: 60 hours. Prerequisite: Restorative Dentistry 171A-B-C. Schuchard, Staff

Clinical practice applying advanced restorative procedures.

174A-B-C. Advanced Restorative Dentistry. (3-5-3) F, W, Sp. Lecture: 1 hour. Clinic: 6 hours. Prerequisite: Restorative Dentistry 171A-B-C. Schuchard, Staff

Advanced restorative dentistry. Seminars will be directed towards the psychology of patient management in relation to treatment planning. The clinical phase will provide experience in contact instruction.

175. Postdoctoral Clinical Practice. (2) SS. Clinic: 60 hours. Prerequisite: Restorative Dentistry 174A-B-C. Schuchard, Staff

Clinical practice applying advanced restorative procedures. Continuation of Restorative Dentistry 173 at advanced level.


A research project in the field of restorative dentistry: Findings must be prepared for publication.

177.01A-B-C. Seminar. (2-2-2) F, W, Sp. Seminar: 2 hours. Schuchard, Staff

Study and interpretation of current literature contributing to the advance of dental science. Discussion will be directed towards defining areas of further study; considerations of modifying scope of dental education to include advances. Research protocols will be developed and implemented.

177.02. Seminar. (2) SS. Seminar: 2 hours. Prerequisite: Restorative Dentistry 177.01. Schuchard, Staff

This is a continuation of Restorative Dentistry 177.01.

177.03A-B-C. Seminar. (2-2-2) F, W, Sp. Seminar: 2 hours. Prerequisite: Restorative Dentistry 177.02. Schuchard, Staff

This is a continuation of Restorative Dentistry 177.02.

177.04. Seminar. (2) SS. Seminar: 2 hours. Prerequisite: Restorative Dentistry 177.03A-B-C. Schuchard, Staff

This is a continuation of Restorative Dentistry 177.03A-B-C.

SOCIOLGY

112. American Society and Its Problems. (3) Sp. Prerequisite: Consent of the instructor. Staff

Presentation of prominent sociocultural features of dominant systems in American society. Integration and dissonance between and among those systems with attention to major social problems which result: e.g., racism, inequality, youth, disconnection between technology and humanistic values.
120A. Philosophy and Logic of Scientific Method. (W.) Prerequisite: Second-year standing in the School of Nursing or consent of the instructor. Davis Focuses on impact of different philosophical schools on development of science, logic or scientific method, statistical concepts, use of theories and models in defining problems, and of hypotheses verification, description of empirical methods, their advantages and limitations.

120B. Statistical Concepts. (2) Sp. Prerequisite: Second-year standing in the School of Nursing or consent of the instructor. Sociology 120A is not prerequisite to Sociology 120B. Staff An introduction to concepts underlying statistical techniques; criteria for selection; how, where, and when used; logic of statistical inference; discussion of probability; discussion of biostatistics included.

122. Health and Illness in American Society. (3) F. Prerequisite: Consent of the instructor. Staff Broad survey of features of American society that produce either health or morbidity or both. A variety of significant factors will be explored in conjunction with ideological implications for the quantity and quality of health care services.

125. Issues in Black-White Relations. (3) Sp. Prerequisite: Consent of the instructor. Johnson A survey of historical, sociological, and political analysis of the origin of Caucasian attitudes towards the black community; and analysis of the origin of contemporary attitudes towards the black minority and the effects in black-white relationships.

152. The Individual and Society. (3) F. Prerequisite: Third-year standing or consent of the instructor. Olesen The relationship of social structures to individuals and their behaviors. The emphasis will be on individuals as members of society rather than on individuals or society as such.

151. Perspectives on Women's Roles in Health Care Delivery. (3) Sp. Prerequisite: Lecture: 3 hours. Olen, Newman Analysis of sex roles in general and women's roles in particular in health care delivery with particular emphasis on relationships of problems to health professions, images of women in therapeutic situations, and cross-cultural features of health care.

153. The Community: Its Social Institutions. (3) F. Prerequisite: Consent of the instructor. Strauss The structure and influence of development and operation of health services organization. An introduction to field observation and interviewing techniques used in studying social institutions. Relationship of institutional careers, commitment to planning for social change and on continuity.

156. Pain: Social, Organizational, and Interpersonal Aspects. (3) Sp. Lecture: 2 hours, Laboratory: 3 hours. Strauss Pain as experienced, expressed, and managed in a variety of settings by patients, staff, and family. Societal and organizational perspectives on assessing, legitimizing, and controlling pain.

167. Social Organization of Health Care (with Primary Emphasis on Hospitals). (2) F. Prerequisite: Consent of the instructor. Barney An inquiry into the nature of the organizational forms by which health care is distributed with particular emphasis on hospital organization and the interaction between health care personnel.

168. Contemporary Social Problems. (3) F. Davis The genesis and natural history of social problems and a substantive survey of such leading contemporary problems as race relations, juvenile delinquency, the role of women in American society, and the distribution of health services in the United States.

188. Supervised Study in Sociology. (1-3) F, W, Sp. Staff Library research and directed reading under supervision of a member of the faculty with the approval of the chairman of the department.

204. Sociology of Psychiatry. (3) Sp. Lecture: 5 hours. Sztatman Psychiatric practices, professional careers, and institutions conceptualized sociologically, as historic, symbolic systems and interactional processes.

205. The Sociology of Health Professions and Occupations. (4) F. Lecture: 4 hours. Strauss and Staff The nature of occupational roles and professions, their constellation in hospitals and clinics, the medical division of labor, specialties and specialization, professional and occupational ideologies, the sociology of work relationships, careers.

206. Sociology of Deviant Occupations. (2-4) W. Prerequisite: Consent of the instructor. Olesen Review and analysis of occupational theory with special reference to the trends, both social and psychological, involved in work customarily considered "dirty" or devalued. Analysis of the organization of such work, the life styles of the persons who pursue it.

207. Microsociology. (2-4) W. Prerequisite: Consent of the instructor. Lecture: 2-4 hours. Olesen Analysis of social behavior utilizing concepts of territoriality, proxemics, social schema; review of relevant animal studies, as well as such concepts as privacy; consideration of cross-cultural uses of space.

208. Social Psychology of Health and Illness. (4) Sp. Prerequisite: Consent of the instructor. Davis The relationship of social class, ethnic identification, group membership, family structure, occupation and life styles to health and illness, and therapeutic interaction of laymen and health professionals.

209. Sociological Analysis: I. (3) F. Prerequisite: Consent of the instructor. Strauss and Stuetzmann methods of sociological analysis, including the analyst's assumptions, the procedural phases, presentation of results, stylistic features, weaknesses and strengths, relevance and application, responses of audiences, and exemplifications in the work of specific sociologists.

210. A-B. Sociological Analysis II and III. (2-2) W, Sp. Prerequisite: Sociology 209 and consent of the instructor. Staff Techniques, methodology, and logic of analysis of data to generate a sociological perspective and substantive theory.

211A-B. Sociological Analysis IV and V. (2-2) F, W. Prerequisite: Sociology 209 and 210A-B and consent of the instructor. Glaser Techniques, methodology, and logic of generating formal sociological theory.

212A-B. Sociological Theory. (2-2) W, Sp. Prerequisite: Sociology 212A is prerequisite to 212B. Consent of the instructor. Staff An examination and evaluation of classical and recent contributions to sociological theory. The central aim is the generation of a critical capacity with respect to received theory in both its formal and substantive varieties.

213. Studies in Participant Observation. (3) F. Prerequisite: Consent of the instructor. Sztatman A basic course in the logic and operations of social research, leading to comprehension, analysis, and discussion on research strategies: entering, listening, data recording, and analyzing.

214A-B. Discovery of Social Reality. (4-4) F, W. Prerequisite: Consent of the instructor. Schatzman Practicum in sociological field observation; course designed to sensitize students to the behavior of people in public places and in organized groups. Instruction in observation, interviewing, the organization of data, descriptive analysis, and research writing.

215. Problems in Microsociology: Urban Life. (4-4) Sp. Prerequisite: Consent of the instructor. Sociology 207 advised. Olesen A graduate research seminar on selected problems in microsociology especially related to urban life, the urban environment and its bearing on health care settings; e.g., clinics. Application of and critique of research and concepts in this area.

214. Comparative Organization. (5) W. Prerequisite: Consent of the instructor. Staff A critical review of classical and recent contributions to the sociology of formal organizations. A variety of typological issues will be considered, with special emphasis on service organizations.

219. Seminar in Sociology. (3) F, W, Sp. Prerequisite: Consent of the instructor. Staff Doctoral student seminar to discuss methods and problems in current research. Can be repeated for credit.

254. Epistemological Problems in the Social Sciences. (4) Sp. Prerequisite: Consent of the instructor. F. Davis Central epistemological problems in the social sciences and their bearing on issues of the research role, modes of conceptualization, scientific communication, and public information.

250. Analysis of Symbolic Systems. (2-4) Sp. Prerequisite: Consent of the instructor. Olesen Critical inspection and analysis of American symbolic systems, e.g., educational institutions, mass media of communication, etc., with respect to the diffusion and alteration of values in specific sections of the society, e.g., health professions.

252. Advanced Problems in Social Psychology. (2-4) F, W. Sp. Prerequisite: Consent of the instructor. Lecture: 4 hours. An advanced seminar dealing with theoretical and conceptual problems in various
284 Courses

areas of social psychology. Recent developments in these areas and related concepts will be reviewed in the light of advancing knowledge in the field.

285 Seminar in Urban Social Relations. (3) W. Prequisite: Consent of the instructor. Strauss
A graduate research seminar on selected topics bearing on the social psychology of urban living and the sociology of cities.

The sociological problems and processes involved when people deal with banks, lawyers, accountants, savings and loans, brokers, finance companies, investment counselors—as they surely must do to store money, use money, obtain credit and loans, invest money, etc.

Staff
Students select special problems to investigate on an individual or collaborative basis. These studies may be conducted through readings, interviews, data collection or analysis of empirical data, or the development of conceptual analysis or of methodologies.

288 Research. (1-8) F, W, Sp. Prerequisite: Approval of the instructor and consent of the instructor.
Staff
A group or doctoral study and consent of the instructor.

254A-C. Field Research in Social Psychiatry. (6-6-6) Yr. Prerequisite: Master's degree in psychiatric nursing and consent of the instructor. Lecture: 6 hours. Glaser
Field research seminar and practicum. The logic and techniques of the field method of inquiry. Emphasis upon research design, participant observation, and data gathering. Guided experiences in a variety of research interests and locales.

254A-C. Field Research in Social Psychiatry. (6-6-6) Yr. Prerequisite: Sociology 254A-C and consent of the instructor. Lecture: 6 hours. Glaser
Field research seminar and practicum. Collaborative research with staff. Training in data organization and analysis.

257A-C. Field Research in Social Psychiatry. (6-6-6) Yr. Prerequisite: Sociology 254A-C and consent of the instructor. Lecture: 6 hours. Glaser
Field research seminar and practicum. Concept development and research composition. All stages of advanced field research from design to publication.

288 Thesis or Comprehensive Examination. (0) F, W, Sp. Prerequisite: Amendment to candidacy and permission of the graduate adviser.
For graduate students engaged in writing the thesis for the masters degree or taking a comprehensive examination required for the masters degree.

299 Dissertation. (0) F, W, Sp Prerequisite: Amendment to candidacy and permission of the graduate adviser.
For graduate students engaged in writing the dissertation for the Ph.D. degree.

Surgery

110. Required Core Clinical Clerkship in General Surgery. (1.5 per week) Su, W, Sp. Prerequisite: Core curriculum in basic sciences. Dunphy, Blaisdell, Hall
Core general clerkship in surgery. Students assigned to wards and clinics at UC, SF, F, and C. The application of basic sciences to surgery is emphasized in ward rounds and seminars.

111. Required Core Clinical Clerkship in Advanced Surgery. (1.5 per week) Su, W, Sp. Prerequisite: Surgery 110 and Medicine 110. Dunphy, Blaisdell, Schrock
Students serve as senior clerk on the wards and in the operating rooms at UC, SF, and F. Rounds and seminars focus on physiological approach to surgery.

140. Advanced General Surgery Clerkship. (1.5 per week) Su, W, Sp. Prerequisite: Surgery 110 and 111. Dunphy and Staff
Students assigned to surgical services in the wards and in the operating rooms at UC, SF, and F. Rounds and seminars focus on physiological approach to surgery.

Students are assigned to surgical services in the wards and in the operating rooms at UC, SF, and F. Rounds and seminars focus on physiological approach to surgery.

140. Ophthalmic Surgery Clerkship at UC. (1 per week) Su, W, Sp. Prerequisite: Surgery 110 and Medicine 110. Sandersen
Students are assigned to the ophthalmic services at UC and work with the attending ophthalmologist.

140. Clinical Clerkship in Cardiothoracic Surgery. (1.5 per week) Su, W, Sp. Prerequisite: Surgery 110 and Medicine 110. Royce
Students assigned to the cardiac surgery service. Additional time is spent in the Surgical Research Laboratory participating in experimental organ transplantation studies.

140.04. Clinical Clerkship. (1.5 per week) Su, W, Sp. Prerequisite: Completion of basic sciences core curriculum and either Medicine 110 or Surgery 110 and 111. Dunphy and Staff
Clinical clerkship in approved hospitals in other universities by special arrangement and approval of the Dean and the Chairman of the Department of Surgery.

140.05. Operable Heart Disease. (1.5 per week) Su, W, Sp. Prerequisite: Completion of basic sciences core curriculum and Medicine 110 or Surgery 110 and 111. Gerber
Weekly rounds, conferences on patients with operable, congenital, and acquired heart disease. Details of surgical, diagnostic and results of surgery are discussed. Participation at UC, PMG, F, and C.

140.06. Mission Emergency Clerkship. (1.5 per week) Su, W, Sp. Prerequisite: Completion of basic sciences core curriculum and Medicine 110 or Surgery 110. Lim
Two-weeks participation on the SF Emergency Ward. Students will work up selected cases, perform minor procedures under supervision, and follow all surgical emergencies as time permits.

140.07. Shock and Trauma Research. (1 per week) Su, W, Sp. Prerequisite: Completion of basic sciences core curriculum and Medicine 110 or Surgery 110 and 111. Sheldon
This will include clinical and laboratory investigation and a detailed study of specific patients and trauma and shock.

140.09. Clinical Clerkship in Trauma Surgery. (1.5 per week) Su, W, Sp. Prerequisite: Surgery 110 and 111. Dunphy and Staff
Students assigned to the trauma service of the Department of Surgery. The student will work at intern-clerk level as an integral part of the service.

140.09. Clinical Experience in Cardiothoracic Surgery. (1.5 per week) Su, W, Sp. Prerequisite: Surgery 110 and Medicine 110. Sandersen
As an integral member of the cardiothoracic team, the student will work at intern-clerk level as an integral member of the cardiothoracic team, and will be responsible for participating in the care of patients with cardiovascular disease.

140.03. Research Project in Cardiothoracic Surgery. (1 per week) Su, W, Sp. Prerequisite: Surgery 110 and Medicine 110. Royce
Seminar is on a selected topic of relevance to cardiothoracic surgery, which may be attended separately or in conjunction with weekly (Wednesday at 5:00 p.m.) rounds on the cardiovascular patients.

160.04. Fundamentals of Surgical Management of Malignant Diseases. (1) Su, W, Sp. Prerequisite: Medicine 110 or Surgery 110 and 111 and consent of the instructor. Dunphy, Galante
Correlation of pathologic physiology of certain malignant diseases with surgical principles utilized in management of the disease to elucidate causes of success or failure and limitations imposed by peculiarities of the malignant process on surgical techniques presently available.

160.05. Advanced Surgery Reading Course. (2) F, Sp.
Truskey
A weekly seminar for three hours where previously assigned papers will be discussed and critiqued. Over a period of eight weeks, approximately 200 papers representing the classical and current concepts in general surgery will be covered.

170.01. Basic Surgical Techniques. (1) F, W. Laboratory: 4 hours. Schrock
Students will learn the principles of operative technique including the use of surgical aid by performing specific operations on anesthetized dogs. The students will function as surgeon, assistant surgeon, and scrub nurse, and will be responsible for examination of the animals during convalescence.

170.02. Emergency Medical Care at SF. (1) F, W. Medical Staff
Students will include first aid care with an introduction to suturing, splinting, resuscitation, psychiatric emergencies, and infection control. Format will include lectures, discussions, Elms, practice, and tour of Mission Emergency. Course is offered primarily for first- and second-year medical students.

198. Supervised Study in Surgery. (1-5) F, W, Sp. Prerequisite: Consent of the instructor. Dunphy and Staff
Library research and directed reading under supervision of a member of the faculty in the approval of the chairman of the department.

199. Laboratory Project in Surgery. (1-5) F, W. Prerequisite: Consent of the instructor. Dunphy and Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

400. General Surgical Staff Conferences. (2) F, W, Sp. Interns and residents. SF Blaisdell, UC Dunphy, F, and Hall
Interns rotate through the general surgical service, including intensive care units. Under the direction of the attending staff, this rotation provides experience also in vascular, chest, hand, and plastic surgery, and surgery of maxillofacial injuries.


Interns, under supervision, are responsible for the preparation of case records, laboratory work, preoperative patient preparation, assistance at operations, postoperative care, and attendance at follow-up clinic.

**TEACHING METHODOLOGY**


**Wycocoff and Staff**

Practical teaching experience in selected courses under the supervision of members of the staff.

180.02A-B-C: Teaching Methods. (1-1-1) F, W, Sp. Prerequisite: Fourth-year standing or consent of the instructor. Lecture: 1 hour.

**Fischer, Pavone**

Predominantly group discussion based on selected readings in educational methodology. Specialists in education are invited to participate. Practical experience in teaching is included in Teaching Methodology 180.01A-B-C. Students will teach in selected courses under supervision.

180.01A-B-C: Practice Teaching. (1-1-1) F, W, Sp. Laboratory: 3 hours.

**Fischer, Pavone**

Practical teaching experience in selected courses under the supervision of senior members of the staff.

**UROLOGY**

Core Clerkship—Surgery 110 includes clinical clerkships in the outpatient clinics and hospitals, assistance at operations, and participation in residents' seminars.

140.01. Urology Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110.

**D. R. Smith**

Clinical clerkship in off-campus hospitals approved by the Dean and the chairman of the department.

140.01. Fundamentals of Urology. (2) F, W, Sp. Prerequisite: Consent of the instructor.

**D. R. Smith**

Seminar and library research.


**D. R. Smith and Staff**

Library research and directed reading under supervision of a member of the department.

140.01. Laboratory Project in Urology. (1-1-1) F, W, Sp.

**D. R. Smith and Staff**

A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.


**D. R. Smith**

Seminar includes study of the basic sciences and urologic roentgenology with members of the attending staff.


**Tanagho**

Course includes experimental investigations in urologic problems.