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 paragraph includes course number, title, units in parentheses, session offered, prerequisite, format and breakdown of hours, and instructor in charge. The second paragraph describes the course content.

Abbreviations — These abbreviations are used where applicable: Su = summer term, SS = summer session, F = fall quarter, W = winter quarter, Sp = spring quarter. For courses where units are followed by a §, the courses so designated are open to graduate academic students for credit. Hospitals are designated by the following initials:

A Alta Bates Hospital, Berkeley.
C Children’s Hospital and Adult Medical Center, San Francisco.
CC Children’s Hospital, Phoenix, Arizona.
CCP 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.
FR French Hospital, San Francisco.
GS Good Samaritan Hospital, San Jose.
H Highland General Hospital, Oakland.
IMBB Irwin Memorial Blood Bank, San Francisco.
K Kaiser Foundation Hospital, San Francisco.
KK Kaiser Foundation Hospital, Honolulu, Hawaii.
KP Kaiser Permanente Medical Center, Oakland.
KSSF Kaiser Foundation Hospital, South San Francisco.
L Letterman Army Medical Center, San Francisco.
LPI Langley Porter Institute, San Francisco.
MC Maricopa County Hospital, Phoenix, Arizona.
MG Marin General Hospital, Ross.
MM Mills Memorial Hospital, San Mateo.
MZ Mt. Zion Hospital and Medical Center, San Francisco.
NAT Natividad Medical Center, Salinas.
NRMC Naval Regional Medical Center, Oakland.
OC O’Connor Hospital, San Jose.
P Peralta Hospital, Oakland.
PH Peninsula Hospital and Medical Center, Burlingame.
PHS United States Public Health Service Hospital, San Francisco.
PMC Pacific Medical Center, San Francisco.
Q Queen’s Medical Center, Honolulu, Hawaii.
RDRC Rancho Los Amigos Hospital, Downey.
S Stanford Medical Center, Palo Alto.
SCC Santa Clara Valley Medical Center, San Jose.
SFCH San Francisco Community Health Service, San Francisco.
SF 110. Required Clinical Clerkship In Ambulatory and Community Medicine. (1½ 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. Crede Integrated ambulatory clerkship experience of wide scope offered in a diversity of patient settings, including Adult Comprehensive, Family Care, Pediatric, and Dermatology Clinics, Home Care Service, Community Health programs, with additional assignments and seminars in radiology, psychiatry, and emergency care.

130. Introduction to Medical Practice — The Profession of Medicine. (3) F, Malloy

An interdepartmental course introducing concepts of medical practice including physician-patient roles, health care systems, medical economics, medical jurisprudence, and bioethics. In preceptorships, students observe physician-patient relationships and processes of care, practice basic maneuvers of examination, and talk with patients.

140.02. Clinical and Community Health Programs. (1½ per week) Su, F, W, Sp. Prerequisite: Determined
Su, F, W, Sp. Prerequisite: Consent of instructor.

140.03. Occupational Medical Practice. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Hine, H. Lewis

Clerkship at an industrial medical dispensary, for two to four weeks supervised in instruction in diagnosis of industrial disease, surveillance of industrial hazards and health promotion activities.

140.04. Preceptorship in Family Practice. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. H. Davis

Students work with a family practitioner, generally in the same office, observing the practice and performing duties as training permits. Experience will be chosen to accommodate common health problems seen in primary care in a community setting. Rural preceptorships will be encouraged.

140.05. Social Medicine Pathway Selective. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Werdager

Field work experience or research geared to social medicine arranged with consideration of student's major area of interest.

140.06. Community Rehabilitation Medicine. (1½ per week) F,W, Sp. Prerequisite: Consent of instructor. Sykes, Crede

Students will be assigned to a variety of community medicine and other rehabilitation facilities for two to four weeks. Emphasis will be on the interpersonal approach, and the selection of patients who are suitable for rehabilitation.


Clerkship in a family physician's office. Students are assigned families and participate in their total healthcare. Medical problems are considered in relation to the family system and as a whole under the supervision of the physician and behavioral sciences staff.

140.08. Family Practice Clerkship at CMS. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Kirby, Werdager

Clinical experience in techniques of rehabilitation in a model community hospital rehabilitation center.

140.09. Clerkship in Rehabilitation Medicine — The Team Approach to Care. Content includes Medicine 110 or Pediatrics 110. Crede

Students function as members of a treatment team caring for patients with acute or chronic conditions; acute spinal cord injuries, acute head injuries, and neurologic and orthopedic disabilities at the Santa Clara Valley Medical Center Acute Rehabilitation Unit. Stipends are available.

140.20. Family Practice Clerkship at VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Surgery 110. Hine, H. Lewis

Involvement in comprehensive primary medical care of families (inpatient and outpatient) participating in team approach to medical care involving family physicians and allied health personnel, experience in utilizing community health resources in support of medical and family problems.

140.21. Emergency Medicine Clerkship at VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Pediatrics 110. T. Rose

Field experience with family practice residents on both hospital and outpatient services. Emphasis is on providing optimal ambulatory care in the Family Practice setting to psychosocial problems, and special health care problems of the medically underserved Mexican-American population.

150.01. Community Health Field Work. (1½ per week) F, W, Sp. Prerequisite: Consent of instructor.

Field work in exploration of one or more areas in social medicine or community health. Faculty from Schools of Medicine, Pharmacy, Nursing, Dentistry, and Social Welfare participate where needed.

150.02. Environmental Medicine. (1½ per week) Su, W, F, Sp. Prerequisite: Consent of instructor. Hine

Tutorial concerned with environmental medical problems.

150.05. Rehabilitation Medicine. (1½ per week) Su, W, F, Sp. Prerequisite: Consent of instructor. Sykes, Byl

Students participate in a program serving the needs of the Latino, Fresno County, and prekindergarten to elderly. Students, free church, and lunch programs are conducted at the Centro Latino, Temple Sholom, Crede and Staff

Students explore one or more areas in social medicine or community health, Faculty from Schools of Medicine, Public Health, Nursing, Dentistry, and Social Welfare participate where needed.

170.01. Aspects of Social Medicine in Community Health Agencies. (1-5) W, Sp. Prerequisite: Consent of instructor. Seminar and Field work 2.5-8 hours.

Hine, Crede and Staff

Seminars explore one or more areas in social medicine or community health. Faculty from Schools of Medicine, Public Health, Nursing, Dentistry, and Social Welfare participate where needed.


Tutorial concerned with environmental medical problems.

170.03. Rehabilitation Medicine. (1½ per week) W, Sp. Prerequisite: Consent of instructor. Seminar and Field work 2-8 hours.

Sykes, Byl

According to the student's interest in areas such as chronic or crippling disease in children, surgical specialties, or disorders of special senses, individualized programs are used to clarify issues in community health. Faculty from Schools of Medicine, Pharmacy, Dentistry, and Public Health participate.


Clinical demonstrations and case presentations representative of occupational and environmental disease.

160.25. Clinical Clerkship in Primary Care at a Fresno Community Hospital. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Pediatrics 110. Sharrer, Corbus, Werdager

Clinical Clerkship based at the largest community hospital
Tennenhouse

Fundamental legal principles and procedures affecting medical practice including civil, criminal, administrative, business, and insurance law, with emphasis on medical negligence; the physician's role in litigation; regulation of hazardous areas of medical practice which most frequently involve litigation.


A seminar exploring various aspects of primary care as related to family medicine. A practicing family physician leads discussion of topics developed by the students. Introduction to primary care principles and material will be used to illustrate methods of developing a functioning health care team.

175.01. The Western Medical Attitude. (1) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.

tentaker

An exploration of the theoretical premises on which Western medical attitudes and their relationship to other disciplines, of the structure of patient-physician relationships, its operational concepts, such as optimal versus inadequate or superfluous examination, the concept of the clinical entity.


Guttentag

Seminar on selected writings and of topics discussed in Ambulatory and Community Medicine 175.

176. Introduction to the Allied Health Professions. (1) F. Lecture 1 hour. Lab 1 hour.

Byl

Allied health professionals will describe their training, their roles, and functions in the health care team. Seminar discussions will be followed by observation of the professional or health care team in action.


Barbaccia

Lectures and seminars introduce entering students to the economic, sociological, and ethical environmental factors influencing community health and provision of care. Topics include preventive health care, social and economic planning, and formulation of social health policy.

182. Public Health Programs. (2) Sp. Prerequisite: Third year or for Pharmacy students (required course); consent of instructor for other students. Lecture 2 hours.

Petakis

Social and world health problems, and policies and programs and agencies concerned with their control. Relationships of pharmacy to topics such as emergency medical services, communicable diseases, nutrition, sanitation, occupational health, maternal and child hygiene, mental health, and public health administrative systems and provision of care. Topics include preventive health care, social and economic planning, and traditional and modern health care.

184. Contemporary Spanish-Speaking Subcultures. (3) F, W. Prerequisite: Consent of instructor. Lecture 3 hours.

Sanchez

Investigation of selected theories of migration, urbanization, assimilation, and conflict with emphasis on different approaches to diverse Spanish-speaking cultures and urban areas; relationships between this group and formal institutions, such as education, law enforcement, and medical services.

185. Health Care Systems. (3) § Lecture 1 hour. Seminar 2 hours.

Barbaccia

Lecture-seminar format is used to cover aspects of the organization and function of the health care system and its subsystems, including manpower, hospitals, ambulatory care, planning regulation and control, economics, government programs, and health services research.

186. Work/Health Problems in a Clinical Setting. (1½-2) F. Sp. Lecture 1½ hours. Student project or research required for 2 units.

Werdgar, Sykes

Presentations of different types of patients with specific health problems. Students interview patients struggling with unresolved employment problems imposed by medical diagnosis.


Exploration of communication skills necessary to effective interviewing of patients and their families, observation of interviewing techniques in medicine and related fields. Direct observation of interviews conducted by physicians and other practitioners; role-playing and discussion with providers and patients. Analysis of key elements of practitioner-patient interaction as related to medical and social problems.


Provides experience in interviewing contexts through role playing, and other simulation situations. Objective of the course is the development of self-awareness as well as recognition of basic skills in practitioner-patient interaction.

188.01. Health Policy Seminar (2) F. Lecture 2 hours. P. Lee and Staff

An introductory series relating health care issues to health policy and ethical analysis, specifically, "Financing Health Care."

188.02. Health Policy Seminar. (2) W. Lecture 2 hours. P. Lee and Staff

An introductory series relating health care issues to health policy and ethical analysis, specifically, "Principles of Health Policy and Ethical Analysis - A Case Study Review."

188.03. Health Policy Seminar. (2) Sp. Lecture 2 hours. P. Lee and Staff

An introductory series relating health care issues to health policy and ethical analysis, specifically, "Health Policy Seminar - Ethics and Law."
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video tape. Readings are discussed in seminars and role playing is occasionally used.


Weekly lectures, rounds, informal seminars, and case presentations are conducted by visiting faculty members from the University of California San Francisco representing diverse clinical disciplines and basic sciences.

406. Family Practice: Conferences in Obstetrics and Gynecology at CHS. (2) Su, F, W, Sp. R. Adams

Family practice residents and members of attending staff prepare and present case histories of patients as well as clinical reviews of selected problems in obstetrics and gynecology.

406.01. Family Practice: Staff Conferences in Internal Medicine at CHS. (4) Su, F, W, Sp. R. Cary, Fraser

Guide family practice residents and members of attending staff prepare and present case histories of patients as well as clinical reviews of selected problems in family practice, internal medicine, and its various subspecialties.

406.02. Family Practice: Conferences in Surgery at CHS. (1 ½) Su, F, W, Sp. K. Campbell, Gulish

Family practice residents and members of attending staff prepare and present case histories of patients as well as clinical reviews of selected problems in general surgery and its various subspecialties.

406.03. Family Practice: Conferences in Orthopaedics at CHS. (3) Su, F, W, Sp. M. R. Miller

Family practice residents and members of attending staff prepare and present case histories of patients as well as clinical reviews of selected problems in various aspects of orthopaedic surgery.

407. Family Practice Preceptorships at CHS. (1 ½ per week) Su, W, Sp. F. Asling and Staff

Residents spend blocks of time in clinical practice settings learning aspects of applied family medicine, office management, and how to function as a health care team.

408. Introduction to Rural Health at CHS. (1) Su, F, W, Sp. Lecture 1 hour. Rodnick

Residents are exposed to problems in health care delivery with emphasis on Mexican-American and counter-culture issues in two rural settings.


Residents participate in group meetings in order to discuss the philosophy and problems related to both family practice and family practice training. Topics range from the management of specific cases to the role of the health care system in society.


Suzuki

Understanding of family dynamics and family therapy, lectures, case discussions, and technique demonstrations are included.


A series of conferences on family process and family change, utilizing speakers prominent in the field of family therapy. A forum type atmosphere is encouraged with interchange between speaker and audience.

432. Family Practice: Clinical Conferences at SGFH. (1 ½) Su, F, W, Sp. Massad

Conferences on medical subjects relevant to ambulatory care participation by members of the faculty of the Family Practice Residency and appropriate representatives of diverse clinical specialties. Series of meetings about specific problems are scheduled.

433. Community Seminar at SGFH. (1 ½) Su, F, W, Sp. Seminar 1 ½ hours. Barnes, Donsky

A series of seminars in which specific projects of Family Practice residents are presented, or in which broad issues are discussed that relate health care problems to the patients' sociocultural milieu.

460. Clinical Primary Care — Medicine. (1 ½ per week) Su, F, W, Sp. Prerequisite: Refer to Medicine 450. Clinic 40 hours. Crede and Staff

Interns in the Primary Care Track of Internal Medicine are responsible for patient care in a multispecialty primary care clinic. Other rotations include those common to the regular Medicine Internship Program and related clinical services such as Dermatology, Neurology.

461. Clinical Primary Care — Medicine. (1 ½ per week) Su, F, W, Sp. Prerequisite: Refer to Medicine 451. Clinic 40 hours. Crede and Staff

Residents in the Primary Care Track of Internal Medicine are responsible for patient care in a multispecialty primary care rotation. Other rotations include those common to the regular Medicine Residency Program and related clinical services, such as Dermatology, Neurology.

462. Clinical Primary Care — Pediatrics. (1 ½ per week) Su, F, W, Sp. Prerequisite: Refer to Pediatrics 452. Clinic 40 hours. Grumbach, Dower

Interns in the Primary Care Track of Pediatrics are responsible for patient care in a multispecialty primary care clinic. Other rotations include those common to the regular Pediatrics Internship Program and related clinical services such as Dermatology, Otolaryngology.

463. Clinical Primary Care — Pediatrics. (1 ½ per week) Su, F, W, Sp. Prerequisite: Refer to Pediatrics 453. Clinic 40 hours. Grumbach, Dower

Residents in the Primary Care Track of Pediatrics are responsible for patient care in a multispecialty primary care clinic. Other rotations include those common to the regular Pediatrics Residency Program and related clinical services, such as Dermatology, Otolaryngology.

475.01. The Western Medical Attitude. (1) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.

An exploration of the theoretical premises on which Western medicine rests; its relationship to the field of disciplines, of the structure of patient-physician relationships, its operational concepts, such as optimal versus inadequate or superfluous examinations in the evaluation of the patient. 


Seminar on selected writings and of topics discussed in Ambulatory and Community Medicine 475.01.

Anatomy

100A. Systemic, Regional and Developmental Anatomy. (5) F. Lecture 3 hours, Lab 6 hours.

The gross structure of the human body is studied by means of dissection, demonstration, X ray, surface, developmental and cross-sectional anatomy with special reference to the functional aspects of the structures examined.

100B. Systemic, Regional and Developmental Anatomy. (4) W. Lecture 2 hours, Lab 6 hours.

The gross structure of the human body is studied by means of dissection, demonstration, X ray, surface, developmental and cross-sectional anatomy with special reference to the functional aspects of the structures examined.

100C. Systemic, Regional and Developmental Anatomy. (8) SS. Lecture 4 hours, Lab 12 hours.

Asling and Staff

The gross structure of the human body is studied by means of dissection, demonstration, X ray, surface, developmental and cross-sectional anatomy with special reference to the functional aspects of the structures examined.

100D. Systemic, Regional and Developmental Anatomy. (3) F. Lecture 2 hours, Lab 2 hours.

The gross structure of the human body is studied by means of dissection, demonstration, X ray, surface, developmental and cross-sectional anatomy with special reference to the functional aspects of the structures examined.

100E. Systemic, Regional and Developmental Anatomy. (3) F. Lecture 2 hours, Lab 2 hours.

The gross structure of the human body is studied by means of dissection, demonstration, X ray, surface, developmental and cross-sectional anatomy with special reference to the functional aspects of the structures examined.


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, Lab 3 hours.

The microscopic structure of tissues and organs of the body are studied in relationship to their histophysiological considerations.

119. Neuroanatomy.

(3) Sp. Lecture 2 hours, Lab 3 hours.

The structure and function of the nervous system is studied in lectures and laboratory.

150.01. Gross and Regional Anatomy. (1 ½ per week) F, W, Sp. Prerequisite: Refer to Pediatrics 150.02. Theoretical Problems of Clinical Medicine. (1 ½ per week)§ F, W. F: Lecture 2 hours. S. Ralston, Fields and Staff

The structure and function of the nervous system is studied in lectures and laboratory.


(3) F. Lecture 2 hours, Lab 6 hours.

W: Lecture 3 hours, Lab 9 hours.

The microscopic structure of tissues and organs of the body are studied in relationship to their histophysiological considerations.

119. Neuroanatomy.

(3) Sp. Lecture 2 hours, Lab 3 hours.

S. Sutherland

The structure and function of the nervous system is studied in lectures and laboratory.

150.01. Gross and Regional Anatomy. (1 ½ per week) F, W, Sp. Prerequisite: Refer to Pediatrics 150.02. Theoretical Problems of Clinical Medicine. (1 ½ per week)§ F, W. F: Lecture 2 hours. S. Ralston, Fields and Staff

The structure and function of the nervous system is studied in lectures and laboratory.


(3) F. Lecture 2 hours, Lab 6 hours.

W: Lecture 3 hours, Lab 9 hours.

The microscopic structure of tissues and organs of the body are studied in relationship to their histophysiological considerations.

119. Neuroanatomy.

(3) Sp. Lecture 2 hours, Lab 3 hours.

S. Sutherland

The structure and function of the nervous system is studied in lectures and laboratory.
170.04. Applied Gross Neuroanatomy. (2) Sp. Prerequisite: Anatomy 103 or concurrent enrollment, or consent of instructor. Lecture 1 hour, Lab 3 hours.

A laboratory-oriented consideration of the anatomy of the human head and spinal cord. Discussion of case histories is correlated with basic neuroanatomy and neuropathology.

170.05. Congenital Abnormalities. (2) § Prerequisite: Anatomy 100 or equivalent and consent of instructor. Enrollment limited.

Weekly seminars on experimental teratogenesis as a step toward understanding the formation of congenital abnormalities in man.

170.07. Developmental Neurobiology. (1-3) § W. Prerequisite: Consent of instructor. Lecture 1-3 hours. Offered in alternate years. Not offered 1978-79.

M. Dennis, J. LaVall, M. LaVall, Reichardt

Principles involved in the structural and functional development of the nervous system, as well as detailed consideration of the development of several specific regions of the mammalian central nervous system. Reading assignments, student presentations, and discussions of classical and current literature.

170.08 Regional and Topographical Anatomy. (1) F, W, Sp. Prerequisite: Second and third year medical students. Lecture 1 hour.

Lindner

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.

170.09. The Language of Anatomy. (1) § F, W, Sp. Prerequisite: Concurrent enrollment in Anatomy 100.

Asling

A three-component elective, fostering vocabulary-building in anatomico-medical terminology, reflecting historical development of the anatomical sciences and their role in modern medicine, and through student oral reports on eponymic terms, introducing some major figures in anatomy.


Prerequisite: Anatomy 102. Lecture ½ hour, Lab 3½ hours.

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


A. Jones

Course covers topics of scanning electron microscopy as well as tissue preparative techniques and applications. Also included are three- to four-hour laboratory sessions in which students will participate in the preparation and viewing of biological specimens.

171.10. Techniques in Cell Biology. (2) or Lecture 2 hours. Enrollment limited for optional lab 3 hours.

S. Rosen

Introduction to the techniques of light microscopy and ultrastructural histochemistry; immunohistochemistry; electron microscopy; subcellular fractionation; radioisotopes; and binding studies. Laboratory sessions will provide practical experience in these areas.

171.08. Anatomy of the Lower Extremity. (1-2) Sp. Prerequisite: Anatomy 117A-B. Lab 3-4 hours.

A. Jones

Course is designed to supplement required course work in anatomy (School of Dentistry) with additional dissection of the lower extremity.

188. Supervised Study in Anatomy. (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 Anatomy. (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 department.

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

S. Wolff

Concepts and mathematics of target theory relating to damage of genetic apparatus. Biophysical and biochemical studies on induction of intragenic and intergenic mutations that can influence in the structure of chromosomes and the interaction of radiation with biological material.

202. Seminar Course on Tissue Culture Methods in Biological Research. (3) W. Prerequisite: Basic knowledge of biological principles and consent of instructor. Lecture 1 hour.

J. Elias, R. Armstrong

Course covers potentials and limitations of culture methods, advantages of assessing effects of various agents (e.g., hormones and vitamins) in controlled environments and of culture methods with other research tools (e.g., autoradiography of electron microscopy). Papers will be discussed.

205. Biology of Development. (3) F. Prerequisite: Undergraduate course in embryology or consent of instructor. Lecture 3 hours.

R. Pedersen

Aspects of preimplantation and postimplantation mammalian development are considered. Topics include gametogenesis, fertilization, cleavage, in vitro development, implantation, placentation, differentiation, tissue interaction, fetal development of systems, and teratogenesis.

215. Cell Structure and Function. (3) F. Prerequisite: Consent of instructor. Lecture 3 hours.

J. Long, Wissig

An advanced presentation of the relationships between structural organization and the physiological activities of cells. Assigned readings, lectures, and seminar discussions are included.


L. Glass

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

217. Anatomy of the Head and Neck for Advanced Students. (1-6) F, W, Sp. Prerequisite: Anatomy 117A-B or equivalent and consent of instructor. Lecture 2 hours, Lab 0-12 hours.

R. Coleman

Course is designed to select topics and methodology of interest in head and neck anatomy. Topics are correlated with appropriate laboratory experience and are presented by students, staff, and faculty.

220. Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.

Staff

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

225. Brain Organization. (4) W. Prerequisite: Consent of instructor. Lecture 3 hours, Lab 0 hours. Offered in alternate years. Offered 1978-79. H. Ralston

Examination of the neuronal organization of the nervous system, including neurocytology, development and plasticity of neural networks, the manner in which neurons form systems of the brain, Lectures, laboratories and seminars are included.


H. Ralston

A seminar series dealing with current literature in neuroanatomy and neuroscience.

230. Comparative Placenta and Foetal Endocrinology. (2) F. Lecture 2 hours.

Contopoulos

A series of lectures covering the comparative anatomical and physiological aspects of placentaation and its relation to the development and the physiology of the fetal endocrine glands.

140.01. Clinical Anesthesia. (1½) per week. Tu, W, Sp. Prerequisite: Anesthesia 110.

Willenkin

Instruction and experience in operating room anesthesia including preoperative and postoperative evaluation and care. Cardiopulmonary resuscitation and care of the unconscious patient, and treatment of pain problems. Rotation through UC, SFGH, and VA. Attendance at the teaching conference of the department.


Willenkin

Instruction and experience in cardiopulmonary resuscitation, care of the unconscious patient, and treatment of pain problems. Rotation through UC, SFGH and VA. Attendance at the teaching conference of the department.

Anesthesia


Willenkin

Instruction and experience in operating room anesthesia including preoperative and postoperative evaluation and care. Cardiopulmonary resuscitation and care of the unconscious patient are stressed. The course is given at SFGH, UC, VA, C, FR, and A hospitals.

120.01. Clinical Anesthesia. (1½ per week) Tu, W, Sp. Prerequisite: Anesthesia 110.

Willenkin

Clinical clerkship in approved hospitals by special

Anatomy / Anesthesia
A cross-cultural view of sex roles through critique of anthropological research, concentrating on factors affecting children's sex-role behavior. Case studies with an emphasis on cross-cultural comparisons and implications for psychology and sociology. Students will present their findings in the form of a research paper. Prerequisites: Consent of instructor. Lecture 2 hours. Lab 3 hours.

243. Interfaces between Law and Medicine: An Anthropological Approach. (3) F. Prerequisite: Consent of instructor. Lecture 2 hours. Cross-cultural survey of problems at law-medicine interface, including medical and legal factors in patient care. Topics include the cultural and psychosocial aspects of illness and healing; cross-cultural perspectives on medical practice; and the role of law in health care. Prerequisites: Consent of instructor. Lecture 2 hours. Field research project required.

246. Seminar on Women and Sex Roles. (3) F. Prerequisite: Consent of instructor. Lecture 2 hours. Cross-cultural survey of the practice of shamans with emphasis on management of disease. Beliefs and practices concerning illness and diagnosis and therapy will be compared with approaches used in other medical systems. Prerequisites: Consent of instructor. Lecture 2 hours. Field research project required.

233. Comparative Family Systems. (3) F. Prerequisite: Consent of instructor. Lecture 3 hours. Ablon An examination of the structure and function of varying family systems. Emphasis on changing family forms, and on ways in which elements of family life style and values contribute to modes of coping with stress, illness, and crisis.

240. Urban Anthropology. (2-3) F. Prerequisite: Consent of instructor. Lecture 2 hours. Cross-cultural survey of the culture of modern cities. Evaluation of theories and methods for understanding urban behavior. Topics include ethnic, racial, and subcultural pluralism in modern cities. The relevance of anthropological concepts for understanding urban behavior. Prerequisites: Consent of instructor. Lecture 2 hours. Cross-cultural survey of urban behavior. Focus will be on the role of social and cultural deviance. Focus will be on the role of social and cultural deviance. Field research project required.

241. Social Deviance. (3) W. Prerequisite: Consent of instructor. Lecture 2 hours. Cross-cultural survey of the deviant behavior of various people. Emphasis on the significance of gender in the selection of deviant behavior. Prerequisites: Consent of instructor. Lecture 2 hours. Cross-cultural survey of deviant behavior. Focus will be on the role of social and cultural deviance. Focus will be on the role of social and cultural deviance. Field research project required.

242. Anthropological Considerations in the Community Mental Health Field. (3-3) F. Prerequisite: Consent of instructor. Lecture 3 hours. Cross-cultural survey of problems at the interface of law and medicine. Topics include the cultural and legal factors in patient care. Topics include the cultural and legal factors in patient care. Prerequisites: Consent of instructor. Lecture 2 hours. Cross-cultural survey of problems at the interface of law and medicine. Topics include the cultural and legal factors in patient care. Topics include the cultural and legal factors in patient care. Field research project required.

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244. Legal Gerontology. (2-3) § F. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units.
Staff
A comparative examination of the legal problems, needs, and behavior of the elderly, relating data from other societies to problems in the contemporary United States. Concepts, theories, and methods drawn from anthropological, legal, medical, and gerontological literatures.

246. Comparative Medical Systems. (2-3) § F, W. Prerequisite: Consent of instructor. Lecture 2-3 hours.
Staff
A comparative examination of traditional and contemporary systems of health care delivery with special attention to theories of disease including notions regarding etiology, prophylaxis, treatment and treatment settings, and the therapeutic encounter. Experience in field and clinical observation included.

247. Seminar in Contemporary American Society. (2) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study.
Ablon
An examination of basic American values, social organization and ethnicity. Major emphasis will be on changing institutions giving rise to new values and life styles.

248. Group Study. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Groups of two or more collaborate on special problems in anthropology under the direction of the faculty. Students may select areas related to their long-term interest and future research program.

249. Directed Reading. (1-6) § F, W. Prerequisite: Consent of instructor.
Staff
Independent study.

Staff
Research.

251. Seminar in Social Gerontology. (2-4) § S. Lecture 2 hours, Lab 0-6 hours. Todd, C.L. Johnson
An overview of the theoretical, empirical and applied literature on the social processes of aging in this country. Special emphasis on health related problems and the delivery of services to the elderly.

252. A-B-C. Cell Structure and Function. (2-4, 2-4, 2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Independent study 3 or 6 hours for advanced units.
Core seminar in medical anthropology offered UC Berkeley in fall and spring, and UC San Francisco in winter. A review of the principal fields of medical anthropology with emphasis on current research and methods.

253. Epidemiology and Medical Anthropology. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours. Dunn
Individuals in a small group directed reading and discussion on epidemiological and medical ecological perspectives, methods and findings relevant to the field of medical anthropology.

255. Human Evolution: An Introduction to Physical Anthropology. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 2 hours. Todd, Ruffini
Overview of evolutionary mechanisms: evolution and the cell — DNA, the genetic code, evolution and the individual — Mendelian genetics; evolution and the population — population genetics, natural selection; evolution and the species — evolution of the primates, origin of man, human evolution, primate and human adaptations.

256. Biological Perspectives on Growth and Development. (1) § F. Prerequisite: Consent of instructor.
Staff
Examination of the human growth process with emphasis on cellular and molecular differentiation; chemical basis of the growth process; critical periods of growth — fertilization, implantation, prenatal development, postnatal development, adolescence, senescence, and developmental adaptation and racial differences in growth.

257. Principles of Human Variation. (2) § S. Lecture 2 hours. Staff
Examination of the extent, origins, and significance of biological variation among human populations. Emphasis is placed on genetic, morphological, and functional aspects of this variation, and how these are maintained by evolutionary mechanisms.

258. Nutritional Anthropology. (3) § W. Prerequisite: Consent of instructor. Lecture-Seminar 3 hours.
Staff
An examination of the critical examination and illustrating its applicability to medicine.

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

260. Epidemiology and Medical Anthropology. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours. Dunn
Individuals in a small group directed reading and discussion of epidemiological and medical ecological perspectives, methods and findings relevant to the field of medical anthropology.

261. Human Evolution: An Introduction to Physical Anthropology. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 2 hours. Todd, Ruffini
Overview of evolutionary mechanisms: evolution and the cell — DNA, the genetic code, evolution and the individual — Mendelian genetics; evolution and the population — population genetics, natural selection; evolution and the species — evolution of the primates, origin of man, human evolution, primate and human adaptations.

262. Comparative Medical Systems. (2-3) § F, W. Prerequisite: Consent of instructor. Lecture 2-3 hours.
Staff
A comparative examination of traditional and contemporary systems of health care delivery with special attention to theories of disease including notions regarding etiology, prophylaxis, treatment and treatment settings, and the therapeutic encounter. Experience in field and clinical observation included.

263. Seminar in Contemporary American Society. (2) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study.
Ablon
An examination of basic American values, social organization and ethnicity. Major emphasis will be on changing institutions giving rise to new values and life styles.

264. Group Study. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Groups of two or more collaborate on special problems in anthropology under the direction of the faculty. Students may select areas related to their long-term interest and future research program.

265. Directed Reading. (1-6) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Independent study.

266. Research. (1-8) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Research.

267. Seminar in Social Gerontology. (2-4) § S. Lecture 2 hours, Lab 0-6 hours. Todd, C.L. Johnson
An overview of the theoretical, empirical and applied literature on the social processes of aging in this country. Special emphasis on health related problems and the delivery of services to the elderly.

268. A-B-C. Cell Structure and Function. (2-4, 2-4, 2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Independent study 3 or 6 hours for advanced units.
Core seminar in medical anthropology offered UC Berkeley in fall and spring, and UC San Francisco in winter. A review of the principal fields of medical anthropology with emphasis on current research and methods.

269. Epidemiology and Medical Anthropology. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours. Dunn
Individuals in a small group directed reading and discussion on epidemiological and medical ecological perspectives, methods and findings relevant to the field of medical anthropology.

270. Research in Population. (2) § W. Lecture 2 hours.
Staff
Population research issues and methods, covering sources of demographic data and studies on family planning, evaluation of birth control programs on population and health, and considerations relevant to the use and acceptability of contraception methods.

271. Special Study. (1-6) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Independent study.

272. Dissertation. (0) § F, W, Sp. Prerequisite: Advance to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the dissertation for the Ph.D. degree.

273. Mathematical modeling of enzyme kinetics, metabolic and hormonal control mechanisms, cooperative introduction to biochemical, and an advanced course in biology are recommended. Lecture 1½-3 hours. Staff
A comprehensive course of lectures, problems, and group discussions concerning general biochemical processes. This course is offered biennially, alternating with Biochemistry 200-A/B-C.

274. General Biochemistry. (11-33) § W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. Staff
A comprehensive course of lectures, problems, and group discussions concerning general biochemical processes. This course is offered biennially, alternating with Biochemistry 200-A/B-C.

275. General Biochemistry. (11-33) § F, W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. Staff
A comprehensive course of lectures, problems, and group discussions concerning general biochemical processes. This course is offered biennially, alternating with Biochemistry 200-A/B-C.

276. General Biochemistry. (11-33) § F, W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. Staff
A comprehensive course of lectures, problems, and group discussions concerning general biochemical processes. This course is offered biennially, alternating with Biochemistry 200-A/B-C.

277. General Biochemistry. (11-33) § W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. Staff
A comprehensive course of lectures, problems, and group discussions concerning general biochemical processes. This course is offered biennially, alternating with Biochemistry 200-A/B-C.

278. General Biochemistry. (11-33) § F, W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. Staff
A comprehensive course of lectures, problems, and group discussions concerning general biochemical processes. This course is offered biennially, alternating with Biochemistry 200-A/B-C.

279. General Biochemistry. (11-33) § F, W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. Staff
A comprehensive course of lectures, problems, and group discussions concerning general biochemical processes. This course is offered biennially, alternating with Biochemistry 200-A/B-C.

280. General Biochemistry. (11-33) § F, W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. Staff
A comprehensive course of lectures, problems, and group discussions concerning general biochemical processes. This course is offered biennially, alternating with Biochemistry 200-A/B-C.
interactions of macro-molecules, diffusion, passive and active transport, membrane models, excitation and conduction, flow and reactivity and thermodynamic principles. Course offers experience in problem formulation and reading of current literature.

207. Biochemistry of Connective Tissues. (2) W. Prerequisite: Biophysics 110A-B or equivalent and consent of instructor. Lecture 2 hours. Offered in alternate years. Offered 1976-79.

Newbrun

Staff
Discussion of selected areas in biochemistry, biology, and biophysics.

211. Biological Transport Systems. (1) § Prerequisite: Biochemistry 100-A, Physiology 100, and Physical Chemistry 110A-B, or equivalents. Edelman

215. Preparation for Research in Biochemistry and Biophysics. (1-5) F, W, Sp. Prerequisite: Basic concepts and techniques pertinent to the fabrication of fixed porcelain materials. Employs is placed on the use and manipulation of materials commonly used in the practice of dentistry.

216. Dental Materials Survey. (1) Lecture 1 hour.


220. Current Topics. (0-5) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1.5 hours.
Staff
For graduate students engaged in writing the dissertation for the Ph.D. degree.

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

Biometrics


M. King

Biostatistics


M. King

Concepts and techniques for the planning and analysis of clinical and laboratory experiments. Introduction to statistical techniques to summarize observations and draw inferences from the data. Design of experiments, randomization, and statistical inference.

Citrin
Course will cover frequency distributions, graphs, central tendency, frequency, variability, standard deviation, probability, the binomial, the normal, z-scores, the normal curve, sampling, testing hypotheses, differences between the means, correlation techniques, and linear regression.

161. Research Design and Evaluation. (2) § Prerequisite: Biostatistics 151. Lecture 2 hours.
R. Ray
Design, analysis of variance, significance of correlation coefficients, reliability, validity, scale analysis, and other statistical tests. Introduction to research design and evaluation. Data collection and analysis of research articles, individual research design, and a written report.


Lecture 2 hours. Lab 0-3 hours. Equivalent to Biostatistics 180.03.
Zippin

Basic concepts and techniques for the planning and analysis of clinical and laboratory experiments. Introduction to statistical techniques to summarize qualitative and quantitative data and to draw inferences, taking into account the design and execution of the investigation.

190. Introduction to Biostatistics. (3) § F, Lecture 3 hours.
Zippin

Principles of collection and tabulation of data; measures of morbidity, mortality, and health sciences; standardization techniques; planning of surveys; and applications to epidemiology.

Zippin

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

197. Introductory Statistics. (3) § F. Lecture 2 hours.
L. Jendresen
An introduction to probability and statistical inference including topics such as analysis of variance, simple linear regression and analysis of discrete data. The laboratory focuses on use of the computer in statistical calculations.

Biomathematics

120. Algebra and Calculus for Biomedical Use. (3) § Prerequisite: Consent of instructor.
Licko

Mathematical concepts and processes for planning, presentation, and analysis in biomedical research. Review of algebraic operations, equations, graphs and matrices. Introduction to functions, sequences, convergence, derivatives, integrals and infinite series. Applications to growth, binding, enzyme kinetics, tracer studies, population dynamics.

189. Introduction to Differential Equations. (3) § W. Prerequisite: Introductory calculus. Lecture 3 hours.

Glanz

Course covers description of biomedical processes such as cardiovascular physiology, pharmacokinetics, instrumentation with ordinary differential equations; direct methods to solve equations and interpret the results; linearity of exponential, natural logarithm, sine and cosine functions; eigenvalues, time constants, and half-lives.

190. Biomedical Modeling Through Differential Equations. (3) § Prerequisite: Biometrics 189 or equivalent. Lecture 2 hours, Lab 3 hours.

Licko
Development of intuitive notions regarding differential equations. Quantitative and qualitative aspects of differential equations are explored by applying basic concepts associated with selected differential equations. Emphasis is placed on understanding why clinical failures occur with selected materials and what biological responses can be expected.


Licko

Landahl and Staff


214. Endocrine Dynamics. (3) § W. Prerequisite: Biometrics 193A-B, or equivalents, or consent of instructor.

Licko

Review of relevant parts of compartmental and tracer analysis and control theory. Analysis of dynamic systems, distribution, kinetic models, and metabolism of hormones and hormonal control. Differential equations and both analog and digital computers are utilized throughout the course.

Staff

V. Spudich

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.

181A-B. Current Concepts in Dental Porcelain. (1) F, W. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 1 hour.

Lacy

Introduction to advanced principles and techniques pertinent to the fabrication of fixed porcelain and porcelain-metal prostheses. A combination of lecture, clinical and laboratory exercises will present new materials, equipment and procedures to students.

199. Laboratory Project in Biomathematics. (1-3) F, W, Sp. Prerequisite: Third or fourth year standing and approval of the dean. Lecture 1 hour, Lab 0-12 hours.

Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department.
203. Biostatistics (4) § Prerequisite: Biostatistics 197. Lecture 3 hours. Supervision in statistical consultation.

204. Advanced Organic Chemistry (4) § Prerequisite: Chemistry 113, 115, and 157, or equivalent. Lecture 4 hours. J. Craig and Staff A study of the detailed processes associated with organic reactions.

205. Quality Control (2) § F. Prerequisite: Enrollment in Clinical Laboratory Science master's program. A review of principles of statistics and their application to quality control in the clinical laboratory; legal aspects of quality control, preventive maintenance.

206. Clinical Toxicology Laboratory (2) § W. Prerequisite: Consent of instructor. Lecture 4 hours. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods and new computer programs will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

207. Enzymology (2) § F. Prerequisite: Consent of instructor. Fatina P. Reynolds, McKan Special course introduces students to the implications as well as the systematic schemes and specific techniques of toxicology and clinical laboratory methods. Antimicrobials are discussed and critically evaluated. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

208. Clinical Toxicology Laboratory (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

209. Quality Control (2) § F. Prerequisite: Enrollment in Clinical Laboratory Science master's program. A review of principles of statistics and their application to quality control in the clinical laboratory; legal aspects of quality control, preventive maintenance.

210A. Clinical Pathology Seminars. (1-1) § F. Prerequisite: Consent of instructor, Seminar 1 hour. Brecher, Loken Specialists on various established and proposed laboratory tests will present interpretation and evaluation of tests as related to pathophysiology.

211. Computer Applications in the Clinical Laboratory (3) § W. Prerequisite: Enrollment in Clinical Laboratory Science master's program. Lecture 2 hours. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

212. Clinical Toxicology Laboratory (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

213. Clinical Toxicology Laboratory (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

214. Clinical Toxicology Laboratory (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

215. Clinical Toxicology Laboratory (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

216. Clinical Toxicology Laboratory (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

217. Clinical Toxicology Laboratory (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Applications of computer science in collecting, storing, analyzing and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed.

218. Supervised Study in Chemistry. (1-5) § F. W. Staff Supervised study of selected topics in chemistry.

219. Project in Chemistry. (1-5) § F. W. Staff A laboratory project under direction of a member of the faculty with the approval of the chairman of the department.
Clinical Pharmacy

110. Orientation in Pharmacy. (2) Conference and Field observation 3.4 hours. deLeon, Herfindal, Best
An introduction to the scope of pharmaceutical practice, including participation in various settings where the pharmacist and patient interact.

130. Clinical Pharmacy. (5) Prerequisite: successful completion of all required first and second year courses or consent of instructor. Lecture 4 hours. Conference 2 hours.
Winter, Kimber, Benet
Orientation to selected areas of medical practice, the clinical evaluation and comparison of drugs used in these areas, and the biopharmaceutics of drug combinations and preparations.

131. Clinical Pharmacy. (6) Prerequisite: Clinical Pharmacy 130 or consent of instructor. Lecture 5 hours, Conference 2 hours. Ignatio
Continuation of Clinical Pharmacy 130.

132. Clinical Pharmacy. (7) Prerequisite: Clinical Pharmacy 130 or consent of instructor. Lecture 6 hours, Conference 2 hours. Barriere and Staff
Continuation of Clinical Pharmacy 131.

135. Preclinical Orientation and Drug Information Analysis Service (Dias) Rotation. (3) F, W. Pre.
requisite: Third year standing.
Shimomura, Cupit, McSweeney
Orientation to clinical services, including patient interview techniques and monitoring, training and actual experience in literature retrieval, and analysis and dissemination of drug information.

148A. Inpatient Clinical Clerkship. (9) F, W. Pre.
requisite: Clinical Pharmacy 130, 131 and 132 and Pharmacology 136. Passing grade in the Clinical Pharmacy 130 series comprehensive examination. Clinical 40 hours per week for six weeks.
Gambarato, McGurney, McAfee, Staff
Supervised clinical pharmacy experience in an inpatient setting. Students develop and explore their roles in an interdisciplinary health care team, take medication histories, monitor drug therapy, provide patient education, research patients' specific drug information questions.

148B. Inpatient Clinical Clerkship. (9) F, W. Pre.
requisite: Clinical Pharmacy 148A. Clinic 40 hours per week for six weeks.
Experience in various subspecialty areas in the Obstetrics and Gynecology Clinic. Students work with other health care professionals in the clinic, participating in conferences and seminars. They will prepare detailed consultations regarding drug therapy where appropriate.

156.43. Clinical Pharmacy Clerkship in Diabetes Clinic at UC. (1-8) F, W. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

Kimble

Students participate in activities of the Diabetes Clinic, including patient education, drug therapy consultation and management, patient follow-up, and participation at conferences and seminars. At option of student, special project may be undertaken in addition to regular clinic activities.

156.44. Clinical Pharmacy Clerkship in Tropical Medicine Clinic at UC. (1-8) F, W, Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

Kimble and Staff

Students participate extensively in activities of the Tropical Medicine Clinic. Emphasis is placed on patient interviews and rational treatment of parasitic diseases. Special project is optional.

156.45. Clinical Pharmacy Clerkship in Anticoagulation Clinic at UC. (1-8) F, W. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

Kayser

Students participate in activities of the Anticoagulation Clinic. Special project will be required, the subject of which shall be chosen by the student, with the consent of the preceptor.

156.46. Clinical Pharmacy Clerkship in Hematology/Oncology Clinic at UC. (1-8) F, W. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

Ignoffo

Students participate in daily activities of the Hematology and/or Oncology Clinics. A special project will be required.

156.47. Clinical Pharmacy Clerkship in Rheumatology Clinic at UC. (1-8) F, W. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

Kimble and Staff

Students participate in activities of the Rheumatology Disease and/or Arthritis Clinics. A special project will be required, the subject of which shall be chosen by the student, with the consent of the preceptor.

156.50. Clinical Pharmacy Clerkship at Ross Valley Pharmacy. (1-8) F, W. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

Kimble, Laughon

Students will interview patients, maintain medication records, answer drug therapy questions generated by pharmacists, physicians, and patients in a pharmacy located with other professional facilities. Conferences, seminars, and selective teaching assignments are included in Clinical Pharmacy 135. Special projects are assigned.

156.61. Clinical Pharmacy Clerkship at Co-op Pharmacy in Berkeley. (1-8) F, W. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

Kimble, Kami, Olayas

Students take patient medication interviews, explain medications, answer questions, and answer drug therapy questions generated by pharmacists, physicians, and patients in a community pharmacy setting.

156.62. Clinical Pharmacy Clerkship at the South of Market Health Clinic. (1-8) F, W. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

Kimble, Whobrey, Torigoe

Students collect data on patient-problem-oriented medication record, dispense medications, educate patients as to proper medication usage, and provide drug therapy recommendations for patients assigned to the pharmacists for chronic therapy management.

156.63. Clinical Pharmacy Clerkship at Sunset Mental Health Clinic. (1-8) F, W, Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

Kimble, Tong, S.J. Cohen

Students work in the pharmacy setting to evaluate psychiatric patients as part of their drug therapy, and present consultations reviewing overall patient therapeutic management in weekly seminars.

156.64. Clinical Pharmacy Clerkship at Haight-Ashbury Heroin Detoxification Unit. (1-8) F, W, Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

Kimble, Inaba

Students work as co-therapists under the supervision of a clinical pharmacist and physicians to develop individualized detoxification programs. Where needed, students will develop detailed drug information reports appropriate to specific patient care.

156.80. I.V. Additives and Parenteral Fluid Therapy at UC. (1-8) F, W, Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. Kimble, Chan

Students participate in daily activities of intravenous medication and preparation and will monitor patients receiving intravenous medications. Conferences will be held on topics related to problems in the use of intravenous fluid therapy in various disease states.

156.81. Clerkship in I.V. Additive Services at Mary's Help Hospital. (1-8) F, W. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

Kimble, Kolabe, Rupp

Students participate in the preparation of I.V. irrigation and inhalation solutions, and are exposed to various types of I.V. equipment. Conferences will be held on topics related to problems in the use of parenteral therapy and drug distribution systems.

156.90. Clinical Pharmacy Clerkship in Drug Information Analysis Service at UC. (1-8) F, W, Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

Kimble, Cupit

Advanced experience in drug information retrieval and analysis. Includes drug information retrieval, seminars, and selective teaching assignments in Clinical Pharmacy 135. Special projects are assigned.

156.91. Clinical Pharmacy Clerkship in the Drug Information Services at A. (1-8) F, W, Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. Kimble, Fleckenstein

Experience in collection, dissemination and interpretation of drug information from a community-based drug information service. Activities will include answering drug information requests from community practitioners.

156.92. Clerkship in Unit Dose Systems at Mary's Help Hospital. (1-8) F, W. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

Kimble, Scarpce, Kahl

Practical experience in a community hospital drug unit dose system. Conferences will be held on topics related to the principles and theory of the unit dose system, drug therapy problems encountered in monitoring, and interprofessional relationships.

156.93. Clinical Pharmacy Clerkship in Peer Review and Quality Assurance at Professional Health Research in Berkeley. (1-8) F, W, Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. Kimble, Hirschen

Participation in peer review and quality assurance aspects of various health programs. Activities include selecting and preparing case histories for review, evaluating and making recommendations, and formally presenting cases to the peer review committee. (Special project also included.

165. Hospital Pharmacy. (1-5) F, W, Prerequisite: Clinical Pharmacy 130, 131 and special projects. Beste, Owyang, Harfling

Course is intended and recommended for students who plan to apply for the resident program in hospital pharmacy. Other students may enroll with consent of instructor.

170. Group Studies. (1-4) F, W. Prerequisite: Consent of instructor.

Group studies of selected topics in clinical pharmacy.

156.11. Clinical Pharmacokinetics at UC. (1-8) F, W. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. Kimble, Rainey

Winter Study. Participation in the clinical service of the Clinical Pharmacokinetics Laboratory. Course includes reviewing drug levels; selecting patients to be monitored; preparation and presentation of reports; attendance at seminars and experience in leading one.

196.21 Infectious Diseases at SFGH. (1-8) F, W. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. Barriere, Tong

Students attend rounds with the Infectious Disease Service. Examine and interview patients selected by physicians and patients’ response to therapy; serve as drug consultants to staff on the service. Special project relating to infectious disease and its therapy will be required.

196.22. Infectious Diseases at VAM. (1-8) F, W. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. Kimble, Geo, Woo

Students attend rounds, provide medication consultations, monitor drug therapy, work with health care professionals to solve problems, and interview patients, and provide pharmacokinetic monitoring.

196.27. Pediatric Specialty Clerkship at SFGH. (1-8) F, W. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. R.H. Levin

Students participate with the pediatric staff in developing individualized drug therapy in various areas of general pediatric medicine, in addition to those which afflict children from low income, overcrowded and underserved conditions. Activities include rounds, conferences and participation in special projects.

196.32. Infectious Diseases Project — MYCIN at S. (1-8) F, W, Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

Kimble, Wells

Experience in various medical services at a private community hospital. Students will write computer programs to monitor drug therapy, consult with house staff and nursing service, and prepare drug information reports appropriate to patient care.

196.55. Medical Specialties Clerkship at SFCH. (1-8) F, W, Prerequisite: Clinical Pharmacy 148A, 148B or 149A, 149B. Consent of instructor. Enrollment limited.

Kimble, R. Conte

Students rotate through the Coronary Care, Cardiology, and Intensive Care Units where they participate in conferences, work rounds and seminars, monitor drug therapy, provide therapy consultations and drug information retrieval and analysis.

196.59. Developmental Clinical Pharmacy Clerkship at The University of California San Diego Medical Center. (1-8) F, W, Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. Kimble, Conte

Exploration of the potential service roles of clinical pharmacists in various medical specialty settings.

196.65. Montegueil Medical Care Center Pharmacy. (1-8) F, W, Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. R.H. Levin

Kimble, Scheidtmann

Clinical Pharmacy


Clinical Pharmacy / Dental Auxiliary Utilization

82 Gardens Convalescent Hospital, (3-6) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132.
Kimble, Warren

Students practice in a convalescent hospital and gain exposure to the pharmaceutical services provided to such institutions by a community pharmacist. Students review drug regimens, prepare case histories for presentation to preceptors, and attend various hospital committee meetings.

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

199. Pharmacy Clinical Work. (8-12) F, W, Sp. Prerequisite: Resident standing. Herfindal, Beste and Staff
Residents provide pharmacy service to patients in the wards and outpatient clinics including taking drug use histories, preparing and monitoring medication charts, providing drug information and consulting services on request. Activities include literature searches, preparing reports and other communications, and teaching and administrative responsibilities involving the Drug Information Analysis Service.

450. Hospital Pharmacy Administrative Work. (5) Su, F, W, Sp. Prerequisite: Resident standing and approval of program director. Herfindal, McClart, Kaysar
Residents provide drug information and consultative services on request. Activities include literature searches, preparing reports and other communications, and teaching and administrative responsibilities involving the Drug Information Analysis Service.

452. Hospital Pharmacy Administrative Work. (5) Su, F, W, Sp. Prerequisite: Resident standing and approval of program director. Herfindal, Besle and Staff
Residents are responsible for carrying out assignments related to the administration of a modern hospital pharmacy service. Activities include preparation of budgets, supervision and development of staff, program planning, and related administrative assignments.

453. Pharmacy Clinical Research. (1-5) Su, F, W, Sp. Prerequisite: Resident standing and approval of program director. Herfindal, Besle and Staff
Research programs are arranged with appropriate faculty members on an individual basis.

469. Seminar in Hospital Pharmacy. F, W, Sp. Prerequisite: Admission to the resident program in Hospital Pharmacy. Besle, Herfindal and Staff

Dental Auxiliary Utilization

Clinical training is conducted in three-week blocks of eight students at SFGH in conjunction with the general dentistry rotation, General Dentistry 108.01.

120. Introduction to Use of Dental Auxiliaries. (1) F, W, Sp. Prerequisite: Preventive Dentistry and Community Health 111. Lecture 1 hour for one-half of quarter.


Hafner and Staff

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 dental disease.

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

Francisco

Introduction to dental specialties and clinical dental procedures. Topics to be covered include oral diagnosis, operative dentistry, pedodontics, endodontics, and myofunctional therapy.

152B. Introduction to Research. (2) W. Lecture 2 hours.

J. Boyce

Introduction to the research hygienist. Course includes types of research, problem selection, research protocol and evaluation.

152C. Research Design. (2) Sp. Lecture 2 hours.

J. Boyce

Continuation of Dental Hygiene 152B; design and implementation of a research project, and preparation of abstracts for table clinic presentations.

155A-B. Introduction to Clinical Dental Hygiene. (2-5) F, W, Lab 3 hours, Clinic 3 hours.

Francisco

Laboratory and clinical experiences in patient examination and history-taking, operator-patient positioning, and techniques for managing slight to moderate anxiety.

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

Francisco and Staff

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

159.01. Clinical Dental Hygiene Seminar. (1) Sp. Seminar 1 hour given in alternate weeks.

Francisco

Clinical consultation with patients and discussion of patient management and clinical procedures.


Francisco and Staff

Students identify their personal and professional roles as members of the dental health team and are informed of general office policies and procedures. Other subjects discussed include selection of a position, taxes, ethics, jurisprudence, and insurance.

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

A. Gould

Continuation of Dental Hygiene 151. Course includes head and neck cancer management, tooth transplantation and implantation, orthodontics, oral surgery, and oral rehabilitation, implantable and removable and fixed prosthetics.

Dental Auxiliary Utilization / Dental Health Education / Dental Hygiene 83
Advanced Clinical Dental Hygiene. (4-4-4) F, W, Sp. Prerequisite: Dental Hygiene 155A-B and 150. 12 hours. Students select an area of interest for independent study or research. These may include clinical, community, educational, institutional, or other areas.

180. Special Study. (0-4) F, W, Sp. Prerequisite: Second year standing in dental hygiene and consent of instructor.

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

Dental Jurisprudence

180. Dental Jurisprudence. (1) W. Lecture 1 hour, for five sessions.

The course broadens student insight into the legal problems and obligations of dental practice.

Dental Technics

115A-C. Basic Dental Technics. (1-1) F, Sp. Lab 3 hour. M. Stark

First year students are oriented to the necessity for accuracy in manipulation of materials. Impression 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. (2-2) SS. Lab 18 hours, for three weeks. Brigante Technical orientation to the basic technics taught in the first year of dentistry such as morphologic, prosthodontics, biomaterials, operative dentistry.

Dermatology

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

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

140.01. Clinical and Research Dermatology. (1½ per week) Su, W, F, W. Prerequisite: Consent of instructor. Cramp Activities of students 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. (1½ per week) Su, W, F, W. Prerequisite: Consent of instructor. W. L. Epstein Clinical clerkship in approved hospitals by special arrangement and approval of the Dean and chairman of the department.

150.01. Research in Dermatology. (1½ per week) Su, W, F, W. Prerequisite: Consent of instructor. Fukuyama A research project under the direction of a member of the faculty.

160.01. Clinical and Research Dermatology. (1½) Su, F, W. Prerequisite: Consent of instructor. W. L. Epstein Activities of students 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.

160.02. Inpatient Management. (1) Su, F, W. Prerequisite: Third or fourth year standing. Conant Daily rounds of inpatient dermatology patients. Informal discussions of diagnosis and management of the hospitalized dermatology patient.

199. Laboratory Project in Dermatology. (1-6) F, W. Prerequisite: Consent of instructor. Fukuyama A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

401. Dermatopathology. (2) Su, F, W. Prerequisite: Lecture 2 hours.

R. Goodman Lectures and demonstrations of the histopathology of skin diseases with special emphasis on correlation with clinical findings. Activities include the study of microscopic sections and discussion of clinical presentations.

402. Seminar in Dermatological Literature. (1) F, W. Seminar 1 hour. Malbach and Staff Seminar covers current literature in dermatology. Inclusion is assigned reading with required reports which are evaluated by members of the faculty.

403. Specialty Seminars. (2) F, W. Seminar 2 hours. W. L. Epstein and Staff Seminars include discussions, required reading, and reports on dermatology and related basic sciences such as endocrinology, microbiology, histopathology, and parapsychology in relation to dermatologic conditions and onology as it relates to the skin.

404. Seminar in Clinical Dermatology. (1-F, 1½ per week) F, W. L. Epstein and Staff Seminar involves the evaluation of recent clinical cases of special interest. Cases are presented by the faculty and resident staff.

405. Research in Dermatology. (3) Su, F, W, Lab 9 hours.

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

406. Basic Science Seminars. (1) Su, F, W. Seminar 1 hour. W. L. Epstein and Staff Instruction in the conduct of research projects dealing with electron microscopy, biology, biochemistry, and immunology of the skin under normal and pathological conditions.

451. Clinical Dermatology. (1½ per week) Su, F, W. Prerequisite: Consent of instructor. W. L. Epstein Assistants residents work on off-campus hospitals, in the United States and other countries under the supervision of the Dean and the chairman of the department. Course includes training in clinical and investigative dermatology.

Economics

150. Economics of the Health Services. (3) W. Prerequisite: Consent of instructor. Lecture 3 hours.

Staff Consideration of the health service sector of the economy. Study of its structure and the pricing, financing, and allocation of health services. Emphasis is on questions of public policy.


Staff An introduction to the principles of economic analysis. Emphasis focuses on systems of 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.

180A-B. Economics. (1, 1½) F, W. Lecture 1 hour.

Winters Lectures and group discussions related to dental practice. Subject areas covered include equipment, insurance, malpractice, and financial procedures, recall, and accounting systems. Prepaid dental care programs and the role of professional organizations are presented by guest lecturers.

Endocrinology

190. Animal Hormones and Their Actions. (2) § Sp. Lecture 2 hours. Offered in alternate years.

L. Loseyth, Papkoff Basic information on animal hormones, their structures, functions and interrelationships. Concepts regarding hormonal actions are derived from chemical structure-function and biological in vivo and in vitro studies. Where possible, mechanisms will be discussed.

191. Topics in Endocrinology. (1) § Prerequisite: Endocrinology 190 or consent of instructor. Lecture 1 hour. Offered in alternate years. L. Loseyth, Papkoff Selected topics of current interest.
192. Structure and Function of the Hormones. (3) W. Prerequisite: Course in basic biochemistry recommended.

Course will examine the chemical nature of the endocrines; 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.

198. Supervision in Endocrinology. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.

Ganong and 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 Endocrinology. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.

Ganong and Staff

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

202. Mechanisms of Hormone Action. (3) W. Prerequisite: Physiology 101 and/or Human Biology 200A or 200B, or Biochemistry 100A-B or consent of instructor. Lecture 2 hours plus independent study.

Goldfine, J. A. Williams

Reading and discussion of classical and current literature concerning known and speculative mechanisms of hormone action. Major hormones covered are insulin, glucagon, thyroid and steroid.


Papkoff, Ramachandran

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


R. Weiner

Seminar presentations in areas of current interest in reproductive endocrinology by guest lecturers and members of the Reproductive Endocrinology Center. Term paper required. Course may be repeated for credit.

230. Reproductive Endocrinology. (2) W. Prerequisite: Consent of instructor. Lecture 2 hours. R. Weiner

Lectures and readings in the reproductive endocrinology of the male and female. Topics include structure, function, and regulation of hypothalamic, pituitary, and gonadal hormones, with special emphasis on humans.


Staff

Endodontics


Nguyen and Staff

Clinical endodontics. Minimum of 100 points or two units required for graduation. Endodontics / Endodontology / Exfoliative Cytology

125. Sophomore Preclinical Endodontics Laboratory Course. (115) Su. Lecture 5 hours. Lab 12 hours.

Nguyen

Course presents the scope of modern endodontics and lays the groundwork for endodontic clinical practice. Laboratory procedures involve in root canal therapy with emphasis on the interrelationship of endodontics to basic sciences and other disciplines of dentistry will be presented.

130. Clinical Endodontics. (1) F. Lecture 1 hour.

Nguyen

Course covers prevention, diagnosis and treatment of diseases of pulp and periodontium. The rationale of endodontic therapy will be critically examined through documented information from the dental literature.


R. J. Rosenberg

Diagnosis, case selection, and management of pain and infection in endodontically treated teeth; advanced techniques for treating difficult root canal system anatomy; refinements in obturation of the root canal system.

189.01. Endodontics Clinical Practice. (0-9) F, W, Sp. Prerequisite: Approval of the chairman of the division. Clinic Variable.

Nguyen and Staff

Clinical experience at the level of Endodontics 109.


Sapone

Advanced instruction in the field of clinical endodontics.

189.03. Expanded Clinical Endodontics. (0-9) F, W, Sp. Prerequisite: Completion of endodontics graduating requirements and satisfactory progress toward graduation in all other divisions. Consent of instructor and approval of Clinical Review Committee. Clinic Variable. Enrollment limited.

Nguyen and Staff

Objectives of the course are to offer more extensive endodontic service, rather than extraction, to patients with endodontic problems, including examination, diagnosis and treatment for students showing interest in endodontics.

189.04. Undergraduate Clerkship in Endodontics. (0-16) F, W, Sp. Prerequisite: Fourth year standing and completion of majority of graduation requirements. Lecture 0.5 hours. Clinic Variable. Clinic Nguyen, Sapone and Staff

An endodontic clerkship offering advanced senior students the opportunity to gain hands-on experience in diagnosis, emergency care, and all facets of nonsurgical and surgical endodontics, as well as the related endodontic-pedodontic-periodontic problems.

Exfoliative Cytology

401A-B-C-D. Exfoliative Cytology. (14-14-14-14) Su, F, W, Sp. Lectures in cytology include normal, malignant, and abnormal nonmalignant cells. Instruction covers method 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 Prosthodontics


Clinical instruction to be taken concurrently with third and fourth year lecture courses.


Radke

Course provides material on the construction of a single three unit bridge (poster) on the typodont models, specifically preparation design, articulation and mounting principles, provisional restorations, waxing design and casting techniques.

115. Techniques in Fixed Prosthodontics. (2) Sp. Prerequisite: Concurrent enrollment in Fixed Prosthodontics 110. Lab 6 hours. Radke

Course covers the basic techniques of fixed prosthodontics.

120A-B. Fixed Prosthodontics Technics Theory. (1-1) F, W. Prerequisite: Fixed Prosthodontics 110 and 115. Lecture 1 hour. Radke (F), Lacy (W)

125A-B. Fixed Prosthodontics Technics. (2-2) W. Prerequisite: Fixed Prosthodontics 110 and 115. Biomaterials 115C-B and Dental Technics 115A-C. Lab 8 hours. Lacy (W)

130A-B. Fixed Prosthodontics Theory. (1-1-1) F, W, Sp. Lecture 1 hour. W; 2 hours SS. Melli (SS), Tueller (F), Staffanou (W)

170. Seminar in Fixed Prosthodontics. (2) F, W. Prerequisite: Students in fixed prosthodontics certification course must register for this course each quarter and summer session. Lorenoki

New concepts and theories are discussed and related to research and clinical practice. Students are encouraged to develop new concepts in the application of basic sciences and research to fixed prosthodontics.

171A-B-C. Clinical Procedures in Fixed Prosthodontics. (2) F. Prerequisite: Students in fixed prosthodontics certification program must register for this course each quarter. Melli (SS), Tueller (F), Staffanou (W)

180.02. Senior Restorative Elective. (1) F. Lecture 1 hour.

Melli

Advanced clinical restorative elective. Lectures and clinical procedures in fixed prosthodontics. Topics include porcelain laminate veneers, esthetics, ceramic inlays and onlays, porcelain fused to metal, metal porcelain, metal ceramic bridges, porcelain crowns, crowns, and fixed partial dentures.


Clinical experience at the level of Fixed Prosthodontics 109.

189.02. Advanced Restoration Elective. (0-9) F, W. Prerequisite: Consent of instructor and approval of Clinical Review Committee. Lab Variable.

Radke, Staffanou

Advanced clinical restorative elective. Instruction in treatment of multiple restorative cases by quadrant or full arch approach. Students are selected to participate by the course director.

Forensic Pathology and Medicine

170.01. Forensic Pathology and Medicine. (1) Sp. Seminar 1 hour.

Smuckler

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.

170.01. Forensic Pathology and Medicine. (1) Sp. Seminar 1 hour.

Smuckler

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.
88 General Dentistry / Health Sciences Education / History / History of Health Sciences

General Dentistry

108. General Dentistry. (0-0) F, W, Sp. Prerequisite: Third year standing. Clinic Variable. G. Hall
An elective course in which students perform patient treatment in a variety of clinical settings.

Khosla
Provision of comprehensive and emergency dentistry care for the community served by SFCHI clinics. Concepts of clinical dental auxiliary utilization will be used while rendering care.

110A-B. Introduction to Clinical Dentistry. (0-0, 0-4, 1-1) F, W, Sp. Prerequisite: Consent of instructor. Seminar Variable. B. Hartman
Introduction to the clinical procedures and techniques used in the diagnosis, management and control of oral disease.

150. Dental Morphology. (2) F. Prerequisite: Concurrent enrollment in Dental Hygiene 150A. Lecture 1 hour. B. Hartman
The development and form of deciduous and permanent dentition and occlusion. Study of individual tooth and arch form to interarch relationships as well as endodonic morphology.

189.01. Advanced Clinical Clerkship in General Dentistry et al VA. (0-2) F, W, Sp. Prerequisite: Fourth year standing and approval of Clinic Review Committee. W. Weir, G. Hall
Students provide comprehensive dental care to patients assigned to them under supervision of staff in the medical and hospital environment. Attendance at seminars and conferences included.

Health Sciences Education

200. Introduction to Health Sciences Training. (2) F. Prerequisite: Consent of instructor. Lecture 2 hours. K. Jacoby
Course focuses on instructional techniques and other strategies useful for the beginning instructor. Emphasis is on the development of an effective persona teaching style. Open to advanced graduates, residents, teaching assistants and new faculty.

220-B. Health Sciences Education Seminar. (2-2) F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Rosinski
Consideration of 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 is placed on the graduate and professional school student as a learner. Corequisite: Kellogg Education Project. Relationships of course work experiences to future roles as allied health teachers are considered. Individual professional problems are analyzed.

A seminar to review and develop objective techniques in assessing the clinical performance and competence of students and practitioners. Techniques will be developed and validated for a number of clinical disciplines.

History

180. History of Dentistry. (1-1) W. Lecture 1 hour. B. Hartman
Projections, based on 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. Lecture 3 hours. F. Schwarz
Emphasis is on the historical development of pharmacy, its relationship to the other health professions and the personalities who significantly contributed to the advancement of health care.

170.02. Medical History and Bibliography. (1-5) F, W, Sp. Lecture 1 hour. J. Saunders
Clinical readings on the philosophy of Asian, Indian, and other non-Western systems.

170.01. The Western Medical Attitude—Philosophical Foundations of Clinical Thought. (1-3) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours. Guttenberg
Reading and conferences.

170.02. The Western Medical Attitude—Philosophical Foundations of Clinical Thought. (1-3) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours. Guttenberg
Reading and conferences.

204. History of Non-Western Medical Systems. (1-2) F, W, Sp. Prerequisite: History of Health Sciences 170.06 or 201. Lecture 1 hour. Veith
Course examines how several classical and modern authors in the Eastern philosophical tradition define human nature. Various basic theories and their implications for contemporary science and medicine are developed.

Introduction to the history of neurological concepts.

210.01. The History of Medical Education. (1-2) F, W, Sp. Lecture 1 hour. F. Schiff
Ethical and theoretical bases of medical education spanning various cultures and their influence on disease.

299. Dissertation. (0) § F, W, Sp. Prerequisite: Approval of Graduate Adviser. Staff

Hospital Dentistry

170. Emergency Medical Care Seminar. (1) W. Prerequisite: Postdoctoral or fourth year standing. Seminar 2 hours. B. Brieger
The course is designed to stimulate group discussion on the principles of emergency medical care. Topics include transportation, disaster planning, triage, cardio-pulmonary resuscitation, management of shock, head and neck injuries, as well as special problems related to dentistry.

183. Oral Surgery Conference. (0) § F, W, Sp. Prerequisite: Enrollment in a postgraduate specialty program or consent of instructor. Lecture 2 hours. J. Klein
Designed to prepare the oral surgeon to conduct a physical examination as a preliminary evaluation to performing oral surgical procedures. Technique of examination is demonstrated and practiced in the classroom; examination of pathologic conditions are conducted at bedside.

172. Oral Biology Conference. (1) W. Prerequisite: Permission of instructor. Lecture 2 hours. J. Klein
Conferences include case presentations by interns and residents, and seminars covering selected sub-
Human Biology

200A. Cell Biology. (3) § F. Prerequisite: Biochemistry 100A or equivalent, or consent of instructor. Lecture 3 hours.

200B. Cell Biology. (3) W. Prerequisite: Biochemistry 100A or equivalent, or consent of instructor. Lecture 3 hours.


202A·B·C. Seminar in Analytic Methods. (2-3) § W. Prerequisite: Consent of instructor. Study weeks. Students either provide their own or use accessible data from ongoing research projects. Emphasis is on training in data organization, analysis, and research report writing.

202B·C. Advanced Seminar on Stress. (2-2-2) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours.

207. Social Change and Adaptations. (2-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

210. Scientific and Literary Approaches to Personal Development. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

215. Family, Culture, and Crisis. (3) § F. Prerequisite: Consent of instructor. Lecture 1 hour, Lab 6 hours.

220. Pro-Seminar. (1-8) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

225. Introduction to Computer Processing. (1 or 2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour, Lab 6 hours.


235. Social Aspects of Death and Bereavement. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours, Seminar 1 hour.

240. Developmental Statistics. (3) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours. Pierce.

Human Development And Aging

200A·B·C. Basic Concepts of Neurosciences. (4-4-4) § F, W, Sp. Prerequisite: Admission to neuroscience program or consent of instructor. Lecture 4 hours.


202A·B·C. Seminar in Analytic Methods. (2-2-2) § F, W. Prerequisite: Consent of instructor. Study weeks.

207. Social Change and Adaptations. (2-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

210. Scientific and Literary Approaches to Personal Development. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

215. Family, Culture, and Crisis. (3) § F. Prerequisite: Consent of instructor. Lecture 1 hour, Lab 6 hours.

220. Pro-Seminar. (1-8) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

225. Introduction to Computer Processing. (1 or 2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour, Lab 6 hours.


235. Social Aspects of Death and Bereavement. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours, Seminar 1 hour.

240. Developmental Statistics. (3) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours. Pierce.

Human Biology

200A. Cell Biology. (3) § F. Prerequisite: Biochemistry 100A or equivalent, or consent of instructor. Lecture 3 hours.

200B. Cell Biology. (3) W. Prerequisite: Biochemistry 100A or equivalent, or consent of instructor. Lecture 3 hours.


202A·B·C. Seminar in Analytic Methods. (2-2-2) § F, W. Prerequisite: Consent of instructor. Study weeks.

207. Social Change and Adaptations. (2-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

210. Scientific and Literary Approaches to Personal Development. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

215. Family, Culture, and Crisis. (3) § F. Prerequisite: Consent of instructor. Lecture 1 hour, Lab 6 hours.

220. Pro-Seminar. (1-8) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

225. Introduction to Computer Processing. (1 or 2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour, Lab 6 hours.


235. Social Aspects of Death and Bereavement. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours, Seminar 1 hour.

240. Developmental Statistics. (3) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours. Pierce.

Human Biology

200A. Cell Biology. (3) § F. Prerequisite: Biochemistry 100A or equivalent, or consent of instructor. Lecture 3 hours.
140.02. Clinical Clerkships Abroad. (1½ per week) Su, F, W, Sp. Prerequisite: Six months of clinical work.
   C. S. Wilson and Staff
   Four-week block elective with 3 hour lecture-discussions on nutritional requirements and deficiencies in various Asian and African clinics. Emphasis on training to do useful work in dietary and clinical evaluation, and in absence of trained nutritionists.

150.01. Medicine in Developing Countries. (1½ per week) F. Prerequisite: International Health 100 or consent of instructor. Dunn and Goldsmith
   Four-week block elective on the recognition and treatment of diseases of tropical and developing countries. The course is designed to prepare students for future abroad. Presentation format includes lectures, seminars, films, laboratory sessions, and supervised independent study.

160.02. Field and Laboratory Research in UC-ICMR Overseas Programs. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Dunn and Goldsmith
   Examination and treatment of patients in the tropical medicine clinics under staff supervision. Students also assist with consultations on hospitalized patients. Most of the patients seen in these clinics at UC and SFGH have diseases associated with infection by parasites.

170.06. Geography of Human Health and Disease. (3) Dunn and Staff
   Course covers principles of medical geography and landscapes. Analysis of specific patterns of human health and disease in the context of physical, biotic, and sociocultural environments, and conclusions drawn to human settlements. Analysis of selected specific diseases of global importance.

170.07 Laboratory Project in Leprosy. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor. Gelber, T. Welch
   A laboratory research project on leprosy under the guidance of a medical scientist. Research Unit at PHS. The Unit’s major research areas are the pharmacology, immunology, and chemotherapy of leprosy in animals and man.

180.02. World Population Pressures and Family Planning Perspectives. (1-2) W. Lecture 1 hour, plus project required for 2 units. Emster
   Implications of population growth and family planning programs in developing industrialized countries. Contraceptive and abortion methods and their sociocultural acceptability are emphasized as well as demographic methods, population research issues, and the role of health professionals in population control

180.01. Tropical Medicine Clinics. (1-2) F. Dunn and Goldsmith
   Prerequisite: International Health 100 and six months of clinical experience. Dunn and Goldsmith
   Seminar 1 ½ hours.

   Basic concepts and techniques for the planning and analysis of clinical studies and scientific experiments. Introduction to statistical techniques to summarize quantitative data, to draw inferences, taking into account the design and execution of the investigation.

180.04. International Health. (2) W. Prerequisite: Consent of instructor. Berkman
   Course considers major socio-environmental determinants of health status. Topics for discussion include the influence of lifestyle factors on disease, screening, and prevention programs. Seminar format with readings in epidemiology.

181. Essentials of Nutrition. (1) F. Lecture 1 hour. C. S. Wilson
   An elementary course in basic concepts of human nutrition. Topics include contaminants, dietary deficiency symptoms, and nutritional problems and food needs of vulnerable groups, with emphasis on the developing world.

182. Concepts in Human Nutrition. (1) Dunn
   Current concepts in metabolic bases of nutritional requirements and dietary recommendations, evaluation of food intake and dietary habits, and assessment of nutritional status. Emphasis on nutritional needs during pregnancy, lactation, growth, malnutrition, and disease, in developing countries and the United States.

186. Tropical Medicine Lectures. (1) F. Dunn and Goldsmith
   Lectures, case histories, and films emphasizing diagnosis and treatment of tropical diseases, including malaria, amebiasis, cholera, typhoid, schistosomiasis, leprosy and arbovirus infections, plus a review of opportunities for clinical clerkships abroad in developing countries.

188. Supervised Study in International Health. (1-5) F, W, Sp. Prerequisite: Consent of instructor. Petrakis, Dunn, Heyneman, R. Goldsmith
   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 International Health. (1-5) F, W, Sp. Prerequisite: Consent of instructor. Heyneman, R. Goldsmith, Petrakis, Schachter
   A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

Laboratory Medicine

140.01. Clinical Pathology. (1½ per week) Su, F, W, Sp. Prerequisite: One year of medical school and consent of instructor. Pollycove
   Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radiology are held in the clinical laboratories at UC and SGFH.

140.02. Clinical Pathology Seminars. (2) Su, F, W, Sp. Pollycove
   Seminar 1 ½ hours.

140.03. Hematology Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Second year of hematology or equivalent. Recommendation from one faculty member.
   Shohet and Staff
   Clerkship primarily in the clinical evaluation of hematologic patients. As interesting clinical problems arise, time will be available for laboratory projects relevant to those problems. Students will act as primary and second-year clinical supervision of hematology residents and fellows.

140.04. Clinical Immunohematology in Transfusion and Transplantation. (1½ per week) W. Prerequisite: Completion of clinical clerkship.
   A two week clerkship in transfusion service. Rational hemotherapy utilizing principles of physiology and immunohematology in evaluation of needs, risks, and benefits of blood transfusion for replacement of blood loss and clinical management of various hemolytic disorders.

150.01. Laboratory Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Townsend
   An intensive four week seminar series, using patient data, designed to give students the ability to choose and interpret laboratory tests in a variety of clinical settings. The scope of tests discussed includes hematology, blood banking, clinical chemistry, and microbiology.

160.01. Diagnostic Use of Radioisotopes. (2) F, W, Sp. Prerequisite: One year of medical school. Lecture 1 hour. Vyas
   Basic laboratory course in radioisotopes. Clinical participation in the diagnosis of patients receiving radioisotopes in the outpatient clinics and in the wards.

170.01. Clinical Pathology. (2) F, W, Sp. UC Brecher, SGFH Pollycove
   Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radiology are held in the clinical laboratories at UC and SGFH.

170.02. Diagnostic Immunohematology. (1½) F. Vyas
   Course covers laboratory aspects of blood banking, transfusion and immunohematology in seminaries or formal lectures. Theoretical and practical aspects of blood grouping, tissue typing and diagnostic immunology are also included.

400. Clinical Pathology Staff Seminars. (2) F, W, Sp. UC Brecher, VA Brecher, VA Petrakis
   Residents prepare summaries of selected clinical cases which present problems in correlation of clinical and laboratory data. Residents and faculty discuss relevant literature with special reference to technical aspects of laboratory procedures and interpretation of results.

401. Special Clinical Pathology Seminar. (2) F, W, Sp. SGFH Pollycove, UC Brecher, VA Petrakis
   Review of current laboratory procedures and problems in hematology, microbiology, immunology, blood banking, and clinical chemistry. Practical use of isotopes. Library research and occasional formal reports are required.

   Research problems engaged with appropriate faculty members on an individual basis.

403. Clinical Pathology Seminars. (1) Su, F, W, Sp. UC Brecher
   Seminars in clinical pathology including clinical chemistry, hematology, immunohematology, microbiology, parasitology, and serology are conducted by select members of the faculty whose major interest is that under discussion. Residents do collateral reading for discussion of problems of interpretation, diagnosis, techniques, and research approaches.
SFHN Polycove, UC Brecher, VA Parek
Principles of laboratory tests in hematology, chemotherapy, 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.

SGHN Polycove, UC Brecher, VA Parek
Theory and methodology of clinical chemistry, serology, blood banking, hematology, microbiology, parasitology, and clinical microscopy. Emphasis is on interpretation and correlation of data and study of literature.

Medical Diagnosis
Crede and Staff
Clinic 6 hours.
The dental intern participates 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 and Biological Illustration
Stoelting, Wakerlin, Koelling
Anatomic illustration; sketching from dissections; form and detail; rendering; color theory; individualized techniques development; perspective; theory of information selection and simplification; representation of structure and form in living tissue.

Stoelting, Wakerlin
Anatomic sketching and illustration from dissection; anatomic individualized techniques development; graphic art for media; form and detail in rendering; illustration from pathologic specimen preparation; introduction to construction techniques for illustrations in print media.

Stoelting, Wakerlin, Beindorf
Continuation of individualized techniques development; principles underlying visual representation of statistical data; construction of charts, graphs and diagrams from research data; graphics for projection; lettering systems; special graphics techniques utilizing photographic, diazo, 3-M and other processes.

204. Illustration of Pathology and Animal Surgery. (3) F, W, Sp. Lecture 1 hour, Lab 6 hours.
Wakerlin, Faduaska, Beindorf
Sketching, illustration and photography of pathologic tissue; regular autopsy observation, photography, sketching and illustration of procedures in animal surgery; study of normal colors and textures of tissue; illustration of instruments and their interaction with various objects.

Wakerlin, Stoelting, Beindorf
Organization in the operating room; procedures and roles; regular observation of surgical procedures. Emphasis on developing skills of sketching from direct observation; photography; consultation with physicians; and planning and development of illustrations.

Wakerlin, Stoelting, Beindorf
Continuing study of more advanced surgical illustration techniques; combined photography/illustration methods; operating room photography; finished illustrations in media of choice; emphasis on innovative approaches to communication of surgical concepts.

Wakerlin, Stoelting
Review of anatomy and observation of the ear and eye through otoprobe, ophthalmoscope and slit lamp. Ophthalmologic illustration, endoscopic drawing; finished illustrations of a retinal field, slit lamp view and a microscopic view.

Stoelting, Wakerlin
Readings and seminar in aspects of instructional design, including communication, theory of learning, behavior modification, programmed instruction, systems design and methods for evaluation. Participation by guest lecturers.

261. Medical and Biological Illustration. (5) F, W, Sp. Prerequisites: Advancement to candidacy and permission of the graduate advisor. Thesis project. Staff
For graduate students engaged in the thesis project for the master's degree.

Overview of theory basic to the development of instructional media.

417. Introduction to Media. (3) F, Lecture 1 hour, Lab 6 hours.
Beindorf, Banks, Wakerlin
Survey of media production technology and formats. Black and white photography methods. Theories of media - perception, light, composition, color, contrast, emphasis, impact; similarities and differences among media including appropriateness for different tasks.

Beindorf, Stoelting

Slide-tape production on an individual basis. Color negative/positive developing and printing.

421. Media VI — Motion Media, Film and TV. (4) F, W, Sp. Lecture 2 hours, 6 hours.
Wakin, Stoelting, Beindorf, Banks
Film and television. Videotape production in a studio setting with insertion of student-produced motion pictures. Theories of motion, dynamics of balance, subjective camera motion. Basic cinematography, TV technology, production economics.

423. Graphics for Print Media. (4) F, W. Prerequisite: Medical Illustration 203. Lecture 2 hours, Lab 6 hours.
Wakerlin
Calligraphy; brochure design; photography in graphic design; layout; copy fitting; camera-ready mechanicals; typography; printing; proofing; specifications for printing; paper stocks, inks, etc. Production of a brochure or other print media.

425. Three Dimensional Illustration and Maxillofacial Prosthetic Reconstructions. (1-4) F, W. Prerequisites: Consent of instructor and approval of director.
Wakerlin, Koelling, Humblebaugh, Harwin
Basic three dimensional modeling, molding, and casting techniques for maxillofacial prosthetic reconstructions given major emphasis in course. Students assist in preparation of protheses for clinical use.

426. Animation. (5) W. Lecture 2 hours, Lab 9 hours.
Beindorf, Stoelting, Wakerlin
Techniques of motion picture animation. Terminology, animation camera and compound, pixelation, cycles, flow, movement of objects in space, timing, sound sync, shooting sheets, design of ten second chassis. Animation film with sound. Production is optional.

429. Display Design and Construction. (1-4) F, W. Prerequisites: Consent of instructor and approval of director.
Wakerlin
Analysis of advantages and disadvantages of displays as teaching instruments. Aspects of design and construction, framing, design materials, scale, models, construction, logistics, cost effectiveness and handling. Field trips to display companies. Production of a display for an actual client.

437. Medical Diagnosis. (3-9) F, W, Sp. Prerequisite: Consent of instructor and approval of director.
Wakerlin
Students begin work on an actual instructional unit. The choice of medium will be determined by teaching needs, and developed through instructional design concepts, storyboard, script, production planning, and budget.

438. Biological Illustration. (2) F, W. Prerequisites: Consent of instructor. Lab 6 hours.
Christman, Stoelting, Wakerlin
Taxonomic illustration of botanic, entomologic, parasitologic, microbiologic and other life science subjects for publication or projection. Various techniques are utilized, but mainly pen and ink.

Wright, Wakerlin, Stoelting, Beindorf
Ilustration and photography of various wounds to provide demonstrative materials for courtroom use. Considerations of adequacy and appropriateness of visual materials as evidence are emphasized. Guest lectures and special presentations are included.

Wakerlin
The choice of medium will be determined by teaching needs, and developed through instructional design concepts, storyboard, script, production planning, and budget.

441. Medical Diagnosis. (3-9) F, W. Prerequisites: Consent of instructor. Lab 6 hours.
Wakerlin
Portfolio design and development; portfolio expectations and applications. Work on production for graduate presentation; preparation of a final show.

Wakerlin and Staff
Seminar. Reading and discussion of principles and practices for professional business management and departmental administration.

Beindorf, Banks, Wakerlin, Stoelting
Second quarter continuation of Media Project series of Medical Illustration 429, 431 sequence, or course may be taken as an independent media production project of choice including advanced animation.

452. Special Study in Medical Illustration. (1-3) F, W, or Sp. Prerequisite: Consent of instructor and approval of director.
Wakerlin and Staff
An elective for special study in area of choice.

Wakerlin, Beindorf, Stoelting
Final portfolio design and assembly. Production of final graduate media presentation; graduate show and arrangements.

454. Biological Illustration. (2) F, W. or Sp. Prerequisite: Consent of instructor. Lab 6 hours.
Christman, Stoelting, Wakerlin
Taxonomic illustration of biological, histologic, parasitologic, microbiologic and other life science subjects for publication or projection. Various techniques are utilized, but mainly pen and ink.

455. Forensic Illustration. (1-3) F, W, Sp. Prerequisites: Consent of instructors and approval of director. Lecture and Lab Variable.
Wright, Wakerlin, Stoelting, Beindorf
Illustration and photography of various wounds to provide demonstrative materials for courtroom use. Considerations of adequacy and appropriateness of visual materials as evidence are emphasized. Guest lectures and special presentations are included.

Wakerlin
Techniques for preparation and presentation of scientific information such as specimens and models in museum settings. Course includes plastic embedment, mounting and preservation of specimens, labelling.
190. Information Structures. (4) F. Prerequisite: Knowledge of one or more programming languages. Lecture 3 hours, Lab 3 hours. Bolour
Course covers elementary and high level information structures, file organization techniques, searching, and sorting. Special topics in non-numerical information handling are also included.

195. Clinical Laboratory Computer Science. (2) W. Staff
Course covers the role of the computer in clinical laboratory information systems and a detailed examination of current clinical laboratory systems. Practical experience will be given programming sample clinical laboratory problems in high level languages.

199. Laboratory Project in Medical Information Science (1-6 S). 3. Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

201. The Medical Environment. (2) W. Lecture 2 hours, Van Brunt
A survey of the professions, institutions, organizations and populations involved in the health care process. Included are the aims, expectations, and concerns involved in the medical environment. Course provides identification and discussion about previous medical health care systems in relation to processes and functions.

202. Nature of Medical Information. (2) F. Prerequisite: Introduction to computer system architecture and programming language. Lecture 2 hours. Blois
Medical information considered from a variety of viewpoints: general medical knowledge versus specific problem data, medical information expressible in numeric, graphic, or natural language means. Particular emphasis on distinguishing algorithmic from non-algorithmic processing of medical data, and the functions of the medical record.

205. Administration and Evaluation of Health Care Systems. (3) Sp. Lecture 2 hours, Lab 3 hours. Staff
Introduction to management concepts, principles, definitions and processes of management and financial accounting with particular emphasis on hospitals and other health care systems.

210A. Computer Systems I. (4) W. Prerequisite: Medical Information Science 190 or equivalent, or consent of instructor. Lecture 3 hours, Lab 3 hours. Wasserstein
Introduction to computer system architecture and organization; operating systems; programming languages and their design.

210B. Computer Systems II. (4) Sp. Prerequisite: Medical Information Science 210A or equivalent, or consent of instructor. Lecture 3 hours, Lab 3 hours. Wasserstein
Language processors; software engineering concepts; specification and design of software systems; and software reliability.

221. Introduction to Operations Research. (3) F. Prerequisite: Elementary statistics or probability and one year of calculus. Lecture 3 hours. Staff
An introduction to mathematical programming, including linear programming, sensitivity analysis, duality. Queuing processes and other selected topics such as computer simulation of operations research models is included.

222. Systems Analysis of Medical Care. (3) F. Lecture 3 hours. Henley
Introduction to use of operations research and systems analysis as aids to design, management or evaluation of medical care systems. Application of operations research techniques to hospitals and other health care facilities are studied within a systems framework.

225A. Design of Medical Information Systems. (2) F. Prerequisite: Consent of instructor. Lecture 1 hour, Lab 3 hours. Henley
The design of previous medical information systems is examined. Successful components of the systems will be studied in depth, with respect to cost, performance, and acceptability. Field trips to existing systems will be made.

225B. Design of Medical Information Systems. (3) W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. Henley
The design of medical information systems is examined. The systems will be studied with respect to cost, performance, and acceptability. Laboratory sessions involving analysis and interactive programming are a continuation of the studies in Information Science 225A.

225C. Design of Medical Information Systems. (4) Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 6 hours. Henley
The design of medical information systems is examined. The systems will be studied with respect to cost, performance, and acceptability. Laboratory sessions involving analysis and interactive programming are a continuation of the studies in Information Science 225B.

230A. Linear Models and Experimental Design. (4) W. Prerequisite: Introductory statistics and one year of calculus. Lecture 3 hours, Lab 3 hours. Halbrun
Techniques for modelling, designing and analyzing data from experiments, clinical and observational studies using the methodology of regression and the analysis of variance.

230B. Discrete Analysis and Statistical Classification. (2) Sp. Prerequisite: Introductory statistics and one year of calculus. Lecture 1 ½ hours, Lab 1 ½ hours. Halbrun
Introduction to modern methods for analysis of discrete data; classification and other quantitative methods relevant to computer assisted diagnosis and treatment planning.

240. Data Base Management. (3) Sp. Prerequisite: Medical Information Science 210B or equivalent, or consent of instructor. Lecture 3 hours, Lab 3 hours. Blois
Boolor covers techniques for logical and physical data base organization, data independence, models of data, approaches to large scale data base management, security and privacy, data description languages, and query languages.

245. Seminar: Software Engineering. (3) F. Prerequisite: Medical Information Science 210B or equivalent, or consent of instructor. Lecture 2 hours, Lab 3 hours. Wasserman
Techniques for program design and development; methods for requirements definition and system specification; programming discipline; management of programming projects; verification and testing of programs; software tools. Emphasis on group participation in small software development projects.

Staff
Research in medical information science. Subjects chosen will range from special topics in information science to hardware, software, and systems evaluation. For students engaged in writing the dissertation for the Ph.D. degree.

Staff
Students participate actively in rounds, conferences, and informal teaching sessions, with emphasis on reading electrocardiograms.

401. Advanced Clinical Clerkship at UC, MZ, SFGH and VA. (1 ½ per week) Su, F, W, Sp. Prerequisite: All clerkships with the exception of Ambulatory & Community Medicine 110 and Anesthesia 110, or by special permission. Completion of Medical Comprehensive Examination.

L. H. Smith, Carbone, R. Haber, Woeker
Students are assigned patients for study on the staff, and participate in the care of inpatients by attending and resident staff. They present patients on wards, assist with procedures, and attend special conferences where their patients are discussed.

402. Clinical Clerkship Off-Campus. (1 ½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and approval of third and fourth year coordinator.

L. H. Smith, Carbone
Clinical clerkships in off-campus hospitals approved by the department chairman, third and fourth year coordinator and the Dean.

403. Acting Intern in the Cancer Research Institute. (1 ½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 131A-B-C. Friedman and Staff
On Clinical Cancer Chemotherapy Service, students work-up patients, present them to attending staff and at conferences, do daily procedures, and write orders under supervision.

404. Senior Internal Medicine Clinical Clerkship at NRMC. (1 ½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Keeley
Clinical clerkship at NRMC. Student functions as intern in internal medicine service of residents and attending staff, or acts as consultant in selected subspecialty under supervision of board certified staff.

405. Cardiology at UC. (1 ½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor. Golschlagher
Students participate actively in rounds, conferences, and informal teaching sessions, with emphasis on reading electrocardiograms.

406. Cardiology at UC. (1 ½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Parnsy
Students work-up cardiac patients in the clinic and on ward service; they present cases and read electrocardiograms. Students in specialized studies and do assigned reading.
Clinical and Physiological Aspects of Pulmonary Disease at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.08. Gastroenterology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

Schmid

Students serve as acting interns in care of patients admitted to chest ward and respiratory care unit at SFGH. Pay contact credits in all teaching activities of the service including daily radiology conferences, teaching rounds, pulmonary function testing, and service conferences.

140.09. Clinical Cardiology Service at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 140.01 or equivalent senior ward medicine experience. Consent of instructor.

Students work-up patients, follow through diagnostic procedures, phonocardiograms, echocardiograms, stress electrocardiograms, cardiac catheterization, and angiographic studies. Instruct in cardiovascular diagnosis, pathophysiology of heart disease, heart sounds. Attendance at departmental conferences. Reading assigned.

140.11. Renal-Electrolyte Service at PHS. (1½ per week) F, W, Sp. Prerequisite: Medicine 110.

Hultex

Students work-up patients under direct supervision in activities of the Dialysis Center including peritoneal and hemodialysis; attend Renal Clinic, presenting cases and daily rounds; attend seminars and conferences; and observe research activities of the unit.


Kalbfleisch, Blumberg, Moffett
Students are assigned cardiac patients for work-up and management under supervision of resident, fellow, and attending physicians. Attend daily ward rounds, present patients in Cardiology Clinic, and observe cardiovascular, pulmonary ward rounds, attending rounds, attending conferences. Instruct in electrocardiography.

140.13. Clinical Clerkship at PHS. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

Lanzerotti

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


V. Schneider

Students work-up patients and participate in activities of the Medical Service under supervision. Attend Metabolic Clinic; present patients there and on endocrine rounds; attend seminars and conferences. Program structured for participation in research activities according to students' interests and qualifications.

140.15. Inpatient Medicine at K. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth year students.

Students based at K serve as clinical clerks. They examine patients, participate in ward rounds and attend attending teaching conferences and conferences of the Department of Medicine.

140.16. Hematology at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

R.O. Wallerstein, Kan

Students work-up hematology patients; review pertinent clinical laboratory data of problems presented; attend slide rounds; assist in preparation of material for seminars; attend hematology conferences.


Morrell, Melmon, Bourne, Shainer

Students evaluate patients regarding problems in drug choice, action of drugs, 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 VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

Brandborg

Students are assigned to the Gastroenterology Unit. They are assigned consultations, perform sigmoidoscopies under supervision, observe upper gastrointestinal endoscopy, and small bowel biopsy. They participate in all rounds and conferences.


Schmid, Malhotra

Students share consultations and on-call with cardiology residents; work-up patients on wards in CCU, assist at D.C. electrographic EKG's and vectorcardiograms; attend rounds and conferences.

140.20. Infectious Disease Clerkship at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Open to UCSF students only.

J. Conte

Students work-up and present patients under the direct supervision of the infectious disease resident. Patients are presented at attending rounds and infectious disease conferences.

140.21. Private Practice. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. L. H. Smith, Carbone

Working experience with an internist on the clinical faculty as he makes rounds in various private hospitals and at UC, sees patients in private office and on house calls, does follow-up studies, and reads electrocardiograms.

140.22A. Pathophysiology of Disease-Cardiovascular. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Siperstein, Steisenger, Talal, Fye

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.

140.22B. Pathophysiology of Disease-Hematology. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Siperstein, Steisenger, Dallman, Ries

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.

140.22C. Pathophysiology of Disease-Renal. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Siperstein, Steisenger, Sebastian

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.


Siperstein, Steisenger, E. Epstein

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.

140.22E. Pathophysiology of Disease-Dermatologic - Infectious Disease. (6) F. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Siperstein, Steisenger, L. Epstein

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.

140.22F. Pathophysiology of Disease - Clinical Pharmacology. (6) F. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Siperstein, Steisenger, Melmon, Brater

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.

140.22G. Pathophysiology of Disease -Immunology - Rheumatism. (6) F, W, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Siperstein, Steisenger, Talal, Fye

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.

140.22H. Pathophysiology of Disease - Neurology. (6) F. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Siperstein, Steisenger, I. Diamond

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.

140.22I. Pathophysiology of Disease - Endocrine - Metabolism. (6) F. Pr. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Siperstein, Steisenger, Kaplan

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.


Siperstein, Steisenger, Earnest, MacGregor

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.

140.22K. Pathophysiology of Disease - Pulmonary. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Siperstein, Steisenger, Boushey

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists.


Nestle, Sipierstein, Steisenger
students in the service, participate actively in bedside teaching rounds and on the ward, attend endocrine and metabolic clinics, and seminars and teaching sessions of endocrine and metabolic medicine, weekly in medicine.

140.24. Rheumatology — Clinical Immunology at UC. (1½ per week) Su, W, Sp. Prerequisite: Medicine 110 and consent of instructor. Limited to fourth year students.

140.25. Renal and Electrolyte Service at SFGH. (1½ per week) F, W, Sp. Prerequisite: Medicine 110.

140.26. Acute Care Units at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.27. Clinical Clerkship Stressing Cardiopulmonary Disease at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.28. Infectious Diseases at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.29. Clerkship in Endocrinology-Metabolism at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.30. Clerkship in Endocrinology-Metabolism at Moffitt Hospital. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.


140.32. Coronary Care Unit at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth week clinical elective.

140.33. Infectious Diseases at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.34. Clerkship in Nephrology at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.35. Cardiology at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.36. Emergency Service Clerkship at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.37. Office Practice of Clinical Rheumatology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.


140.41. Gastroenterology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.42. Clinical Pharmacology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.43. Basic Rheumatology and Immunology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.44. Clinical and Physiological Aspects of Pulmonary Diseases at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.45. Endocrine-Metabolism Clerkship at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and consent of instructor. Enrollment limited. Priority given to UCSP students.

140.46. Clinical and Physiological Aspects of Pulmonary Diseases at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.47. Clinical and Physiological Aspects of Pulmonary Diseases at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.


140.49. Clinical and Physiological Aspects of Pulmonary Diseases at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.50. Clinical and Physiological Aspects of Pulmonary Diseases at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.51. Gastroenterology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

140.52. Clinical and Physiological Aspects of Pulmonary Diseases at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.


140.54. Nephrology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.


140.56. Clinical and Physiological Aspects of Pulmonary Diseases at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.


140.60. Clinical and Physiological Aspects of Pulmonary Diseases at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.
140.55. Acting Internship at C. (1 ½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth and fifth year students. 

Griffith

Students, teamed with a resident, will evaluate and study patients admitted to an acute care hospital. Experience includes history taking, physical examination, therapeutic plan, and progress notes. Attendance at daily teaching rounds and conferences.

140.56. Geriatric Medicine Clerkship at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. 

FA. Fisgard, R. Baumgarten, B. Koen, H. Weinstein 

Course offers opportunity for participation in various medically oriented geriatric activities. Activities include health care team meetings, education of hospital staff, and participation at a housing center to assist in the daily care of patients. Under the direction of the attending staff, students rotate on the medical service, ambulatory, and geriatric ward units of the hospital. 

140.57. Cardiology at Fresno. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor, F. A. Abbott 

Students see patients in the coronary care unit, wards and clinics at the University of California Teaching Facility at Fresno. They will develop and implement treatment plans with the consultant, read electrocardiograms, and attend all seminars and conferences.

140.58. Pulmonary Service at VAF. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor, L. A. Smith 

Students on Chest Service will have primary care responsibilities for medical inpatients under supervision of the attending staff. Students will be assigned to the cardiac care unit, respiratory intensive care unit, and general medical wards. Under the direction of the attending staff, students will be responsible for patient care in a medical intensive care unit.

150.02. Research in Medicine. 

F. A. Abbott, L. H. Smith, M. L. Weintraub, J. A. Levy 

Research programs are arranged with appropriate faculty members in various medical specialties. Research projects are conducted under the guidance of faculty members. 

150.03. Cancer Viruses. (1 per week) Su, F, W, Sp. Prerequisite: Consent of instructor, M. L. Smith 

Jaques 

Tissue culture techniques and animal experimentation will be used to demonstrate the role of viruses in animal malignancies and autoimmune disease. Research serves as a model system for studying similar problems in man. 

160.03. Interdisciplinary Clinical Skills. (1 W, Sp. Prerequisite: Second year standing or consent of instructor, M. Goldman 

Naughton, Veatch 

Skills-laboratory seminar designed to create a working relationship between medical and nursing students, using instruction and acquisition of critical and communication skills as the interactive mode. bedside skills for direct patient care will be taught and practiced.

170.04. Fundamentals of Electrocardiography at VA. (1 Su, F, W, Sp. Prerequisite: Medicine 132A-B. 

Rapaport 

Instructor in basic electrophysiology principles and interpretation of electrocardiograms.

170.05. Fundamentals of Electrocardiography Interpretation. (1 W. Prerequisite: Medicine 131A. 

Rapaport 

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

170.07. Non-Invasive Laboratory Cardiology. (1 Sp. Prerequisite: Medicine 170.05. 

Rapaport 

Fundamentals of non-invasive laboratory cardiological procedures will be discussed. Techniques and role of echocardiography, stress electrocardiography, Holter monitoring, phonocardiography, systolic time intervals, vectorcardiography, apexcardiography, and other areas will be covered.

170.08. Introduction to Cancer Medicine. (2 F. L. White 

Levin 

Lecture 1 hour. Review of basic humanistic orientation to cancer that will form a framework for better understanding and integration of the information on cancer presented in other health science courses. Biomedical, clinical, and psychosocial aspects will be explored.


Rapaport 

Prerequisite: Consent of instructor preceptor and approval of third and fourth year coordinator. 

L. H. Smith, Carbone 

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


Rapaport 

Prerequisite: Consent of instructor preceptor and approval of third and fourth year coordinator. 

L. H. Smith, Carbone 

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

401. Interdepartmental Clinical Correlation Course. (4 F, W, Sp. Prerequisite: L. H. Smith 

Rapaport, VA Siegener 

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 in the medical conference. 

402. Seminars in Medical Literature. (1) F, W, Sp. VA Siegener 

Seminars on recent literature in internal medicine, with participation by residents and evaluation of presentation of material by interns, residents, and faculty.


F. L. White, H. L. Smith 

Seminars are conducted in the fields of gastroenterology, hematology, cardiology, electrocardiology, endocrinology, chest diseases and pulmonary physiology, and including the psychodynamic medicine, arthritis and rheumatic diseases, infectious and clinical medicine. Library research, occasional formal reports and patient presentations are required.


F. L. White, H. Williams, VA Siegener 

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


F. L. White, H. Williams, VA Siegener 

Seminars are conducted in cardiology, electrocardiology, hematology, gastroenterology, radiology, fluid and electrolyte balance, endocrinology and pathology, involving discussions, required reading, and reports. 


UC L. H. Smith, SFGH H. Williams, VA Siegener 

Research programs are arranged with appropriate faculty members on an individual basis.


UC L. H. Smith, SFGH H. Williams, VA Siegener 

Residents take an active part in the presentation and discussion of problems connected with the correlation of clinical manifestations of disease with postmortem studies. Conferences include reference to the literature, clinical demonstrations, and laboratory work.

408. Electrocardiographic Interpretation. (2 Su, F, W, Sp. Sokolow 

Seminars (individual instruction) for residents in medicine and trainees in cardiology by cardiac consultants in the interpretation of all electrocardiograms and phonocardiograms taken at UC.


F. L. White, H. L. Smith, UC L. H. Smith 

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 provide teaching and consultation service in the hospital and outpatient clinics.


W. Koerber, J. Abbott 

Residents are responsible for the care of patients under the direction of the attending staff, and participate in student teaching. Senior residents provide teaching and consultation service in the hospital and outpatient clinics.


VA Rosenstiel 

Residents are responsible for patient care, under the direction of the attending staff, including supervising medical inpatients, physical examinations, laboratory tests, and consultation. Third year and senior residents, in addition, have certain responsibilities involving the residents, and consults for all other hospital services.

460. Clinical Primary Care. (½ per week) Su, F, W, Sp. Prerequisite: Refer to Ambulatory and Community Medicine 460. 

Residents in the Primary Care Track of Internal Medicine are responsible for patient care in an ambulatory multispecialty primary care clinic. Other rotations include those common to the regular Medicine Internship Program as well as related clinical services such as Dermatology, Neurology.

461. Clinical Primary Care. (1½ per week) Su, F, W, Sp. Prerequisite: Refer to Ambulatory and Community Medicine 461. 

Residents in the Primary Care Track of Internal Medicine are responsible for patient care in a multispecialty primary care clinic. Other rotations include those common to the regular Medicine Residency Program as well as related clinical services such as Dermatology, Neurology.


F. L. White, H. Williams, SFGH H. Williams 

Interns rotate through medical wards and emergency hospital. Under the supervision of the attending staff, they are responsible for the care of patients, including history taking, medical work-ups, laboratory tests, and consultation.


F. L. White, H. Williams, UC L. H. Smith 

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


UC L. H. Smith 

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

100A. Biologic Agents of Disease. (3) Sp. Prerequisite: Biochemistry 100A–B. Lecture 3 hours.

Lec: W. Levinson

Lectures on the fundamentals of immunology and virology. Small group seminars on patient-related problems in these fields.


Semin: J. Hewett

Pathogenesis of infection and resistance to microorganisms, particularly bacteria and fungi. Natural history, essentials of diagnosis, treatment and epidemiology of infectious diseases. Laboratory demonstrations of exercises of essential medical skills. Problem-solving exercises and conferences on clinical cases.

125. Microbiology. (6) § Sp. Lecture 4 hours, Lab and Conference 6 hours.

Staff: Halde and Staff

Morphology and physiology of microorganisms including bacteria, fungi, yeasts, and viruses. Techniques to study them. Fundamentals of infection and resistance, immunology, microbiological genetics, dissection, chemotherapy, basic laboratory products, and epidemiology. Problems in laboratory diagnosis, treatment and prevention of infectious diseases.

126A-B. Microbiology. (1-5) Sp. W. Lecture 1 hour Sp, 3 hours W; Lab and Conference 6 hours.

Lect: J. Hewett, R. Speck

An introduction to general immunology and a comprehensive presentation of microorganisms in oral health and disease, with emphasis on the ecology of the oral flora and applications of microbiology to Dentistry.

150.1. Research in Microbiology. (1½) Su, W, F. Prerequisite: Microbiology 100A and 100B and consent of instructor.

Staff: Research in microbiology; block elective for fourth year students.

150A. Medical Microbiology for Graduate Students. (3) § Sp. Prerequisite: Biochemistry 100A–B or equivalent. Lecture 3 hours. Equivalent to Microbiology 100A.

Lec: W. Levinson

Lectures and conferences on the fundamentals of immunology and virology. Small group seminars on patient-related problems in these fields.

150D. Medical Microbiology for Graduate Students. (4-5) § F. Prerequisite: Biochemistry 100A–B or equivalent. Lecture 3 hours. Conference 1 hour. Lab 4 hours. Lecture 2 hours, Lab 2 hours, Seminar 1 hour. Consent of instructor. Equivalent to Microbiology 100B.

Lect: J. Hewett

Processes of infection and resistance. Microbial and immunological epidemiology, treatment and control with emphasis on human disease.

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

Staff: W. Levinson, Levinlort, Varms

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 Microbiology. (1-5) § F, W. Prerequisite: Consent of instructor. Staff

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

203. Molecular and Cellular Immunology. (3) Prerequisite: Biochemistry 100A-B and Microbiology 100A and 100B or equivalent. Offered in alternate years. Not offered 1978-79.

J. Goodman

Study structural and functional aspects of antigens and antibodies, including chemical and genetic basis of immunogenicity, structure and biosynthesis of immunoglobulins, antigen-antibody interactions, immunogenetics, properties of immunocompetent cells, cell cooperation, lymphocyte receptors for antigens.

204. Immunobiology. (3) § W. Prerequisite: Microbiology 100A and 100B or equivalent course in basic immunology. Offered in alternate years. Not offered 1978-79.

Linscott

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

205. Selected Topics in Cellular Immunology. (3) § Sp. Prerequisite: Microbiology 203 and 204. Lecture 3 hours.

C.L. Miller

An in-depth analysis of selected areas in cellular immunology, including lymphoid cell interactions in immune regulation; specific and nonspecific immunosuppression; and genetic control of the immune response.

206. Pathogenic Fungi. (2) § F. Prerequisite: Microbiology 100A and 100B

Jawetz

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

207. Cellular Immunology Laboratory. (3) § Prerequisite: Microbiology 203, 204 and concurrent enrollment in Microbiology 205. Lab 9 hours.

C.L. Miller

Techniques of in vitro induction of cellular immune responses; separation of A, T and B leukocyte subpopulations; Jeme Plaque assays and cell mediated cytoxicity assays will be performed.

208. Molecular Biology of Animal Viruses. (3) § W. Prerequisite: Consent of instructor. Staff

Techniques and applications of nucleic acid structure and function of types of viruses. Lecture 2 hours. Seminar 1 hour. Offered in alternate years. Offered: Spring.

Bishop: W. Levinson, Levinlort, Varms

The nature of viruses: dynamics of virus-cell interaction with emphasis on animal virus systems, control of expression of virus-specific information in lytic and temperate infections, and role of viruses in malignant transformation of cells.

209. Research Problems in Immunology. (3) § F, W. Prerequisite: Microbiology 110 or equivalent and consent of instructor. Lab 9 hours. J. Goodman

Participation in ongoing research problems in the instructor's laboratory. This is not a structured laboratory methods course, but rather a practical research experience in an immunology laboratory involving the design, execution, and analysis of experiments to study the role of antigens activation by antigens and cell interaction.

213. Clinical Immunology and Immunopathology. (3) W. Lecture 3 hours.

Talal

The pathophysiology of autoimmune, rheumatic and certain malignant diseases in relationship to immunologic mechanisms; basic principles of lymphocyte heterogeneity and function; immunologic mechanisms leading to tissue destruction and factor regulating lymphocyte proliferation. Review paper on a selected topic is required.


Staff

General microbiology: individual research of advanced graduate students, invited speakers and staff members. Reviews of special topics and journal articles by advanced students.

221. Oral Microbiology. (1½) § F. Prerequisite: Consent of instructor. Staff

Hurst

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


Staff

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 master's degree.

229. 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 doctoral degree.

Microbiology / Morphology / Neurological Surgery

Neurological Surgery

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

140.01. Clinical Neurological Surgery Clerkship at UC, SFGR or VA. (1½ per week) Su, F, W, Sp.

Rosegay, Pitts, C.B. 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. Limited to one student per hospital.


Hoyt

Students participate with fellows on ward rounds, discussions, and examinations of in-house neurosurgical patients.

189. Supervised Study in Neurosurgery. (1-5) F, W, Sp. Prerequisite: Consent of instructor.

Staff

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


C.B. Wilson

Residents, under supervision, prepare and present 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.


C.B. Wilson

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


Baldrey, C.B. Wilson

Residents discuss neuroradiological 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 autopsies on patients from the Neurological Surgery Service.

410.01. Clinical Neurological Surgery Clerkship at SFGR or VA. (1½ per week) Su, F, W, Sp.

C.B. Wilson

Students 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. Limited to one student per hospital.
Recent literature in neurology and neurological surgery is presented. Discussion by members of the faculty in attendance and by visitors from other schools interested in this and related fields.

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.

SFGH Pitts
Residents are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examinations, laboratory tests, and consultations. In addition, the senior resident has certain administrative, teaching, and clinical responsibilities.

VA M.S. Edwards
Residents are responsible for diagnosis and care of patients in wards and clinics and performance of studies and selected neurosurgical procedures under supervision of the attending staff. They are responsible for care of patients at conferences and attend seminars and rounds at UC.

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

412. Research in Neuropathology.
Amlinoff
Histopathological study, and discussion of surgical specimens and autopsies and pathologic studies of brains and nervous system affecting infants, children and adolescents.

Amlinoff
Clinical and basic research in the diagnosis and management of ocular diseases of the nervous system affecting the visual system. Residents present weekly case conferences and are involved in research.

454. Clinical Training in Electromyography.
Fishman
Residents learn interpretation of electromyography in the diagnosis of patients seen in the wards and in the outpatient clinic with individual instruction as required.

Fishman
Course offers experience in the diagnosis and management of children with acute and chronic neurological disorders. Outpatient clinics are held weekly for pediatric convulsive disorders and behavioral and learning problems of the school child.

Fishman

401. Introduction to Nursing. (2) SS. Prerequisite: Admission to School of Nursing.
Course introduces nursing students to the nature of their profession in today's society and provides an orientation to a specific system of teaching and learning.

411B. Introduction to Nursing. (1) F. Lecture 1 hour.
R.A. Terry
Course introduces nursing students to the role of their profession in today's society and provides an orientation to a specific system of teaching and learning.

110. Physiological Basis of Nursing Assessment. (3) F. Prerequisite: Consent of instructor. Lecture 3 hours.
Ahumada
Development of a systematic approach to the analysis and presentation of clinical data. Course emphasizes current nursing knowledge, concepts and terminology, while utilizing material from parallel courses.

111A. Communication: Theory and Practice in Nursing. (3) F, W, Sp. Prerequisite: Nursing 110 or 111B. Consent of instructor. Lecture 2 hours. Lab 15 hours.
Staff
Explores the components of health, theoretical basis of health assessment, and identification of patient problems. Introduces the role of the nurse as a health assessor in inpatient and outpatient settings, on an aged continuum from infancy to senescence.

111B. Health Assessment in Nursing. (7) F, W, Sp. Prerequisite: Nursing 110 and 111A. Lecture 2 hours. Lab 15 hours.
Staff
Explores the components of health, theoretical basis of health assessment, and identification of patient problems. Introduces the role of the nurse as a health assessor in inpatient and outpatient settings, on an aged continuum from infancy to senescence.

112. Small Groups: Theories and Issues. (3) F, W, Sp. Prerequisite: Concurrent enrollment or prerequisite to Nursing 117. Lecture 2 hours. Lab 3 hours.
Furuta
Explores the components of health, theoretical basis of health assessment, and identification of patient problems. Introduces the role of the nurse as a health assessor in inpatient and outpatient settings, on an aged continuum from infancy to senescence.

113A. Communication: Theory and Practice in Nursing. (2) F, W, Sp. Prerequisite: Concurrent enrollment in Nursing 111A or consent of instructor. Lecture 1 hour. Lab 3 hours.
Koelehe-Kaplan
Communication theory and principles in laboratory research.

Neurology)](107)

106 Neurological Surgery / Neurology

201. Curriculum Development in Nursing.


Comparative study and critical analysis of major conceptual models in nursing. Emphasis is placed on models that are prototypes for the following theoretical frameworks: systems, symbolic interactionist, developmental, and adaptation theories. Course may be repeated for credit.


204-B. Comparative Nursing Administration.

Comparative analysis of nursing with emphasis on nursing administration in the United States and other countries, with particular reference to the changing roles of nurses. Course may be repeated for credit.
Radiographic identification of bone™ movement of the body. Students practice the technique for x-rays in various positions. Students evaluate the x-ray film, making necessary adjustments to the machine settings. Instruction in 211.228. Critique of Research Studies in Quality of Health Behavior. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, lab 3 hours. 

Prof. Staff 

Critique and research studies in preventive health behavior in the community setting with the intent to develop research consumerism. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences.

211.238. Critique of Research Studies in Nursing Education. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, lab 3 hours. 

Prof. Staff 

Exploration of community health issues previously identified in community health nursing. Opportunity to explore theories and test their applicability to community and family life.

215D. Strategies of Community Organization. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, lab 3 hours. 

Prof. Staff 

Exploration of strategies of institutional analysis, community assessment, and methods of community organization and development, which enable nurses to facilitate others' capacities to define, plan for, and meet their own physical, social, and mental health priorities.

215E. Research Methods in Community Health Nursing. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, lab 3 hours. 

Prof. Staff 

Staff emphasizes survey and evaluative research methods. Focuses on identification, collection, analysis, interpretation, and reporting. Stresses these functions as essential for planning and developing community health programs.

216. Maternal Child Nursing. (3) § F. W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, lab 3 hours. 

Prof. Zaler, Dunbar 

Survey of major phenomena utilizing concepts, theories, and laboratory experiences within childbearing: pregnant couple, enlarging family, mother-child systems, and the family. Includes total family interactions, and life experiences in health and illness.

217. Psychosocial Care of Hospitalized Children and Their Families. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. Tesler 

Exploration of the theory related to the psychosocial experiences of children and hospitalization, and of maternal-infant care and attachment. Exploration of impact of maternal-infant or infant with deficits on parenting process. Pracicum available through Nursing 406.

218. Maternal Identity: Role Transition. (2-3) § Sp. Lecture 2 hours, Lab 0-3 hours. 

Prof. Tester 

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

219A. Nursing Care of the Acutely Ill Child. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. J. Ward 

Focus is on exploration of immature physiological and pathophysiological processes and their implications, and planning nursing management of the acutely ill child. Students employ the problem-oriented framework to assess and manage theoretical patient problems. Practicum optional.

219B. Nursing Care of Acutely Ill Children. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. J. Ward 

Focus is on exploration of immature physiological and pathophysiological processes and their implications, and planning nursing management of the acutely ill child. Students employ the problem-oriented framework to assess and manage theoretical patient problems.

220. Advanced Seminar in Nursing Research. (3) § F, W, Sp. Prerequisite: Nursing 211A and 211B or equivalent and consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. Staff 

A seminar intended for doctoral students to discuss methods and problems in current nursing research. Course may be repeated for credit.

221A. Nursing Research Methods. (2-3) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab optional 0-3 hours. 

Prof. Oda 

A lecture/seminar focusing on the critical analysis of specialized nursing role development processes. Role research emphasized. Includes traditional, existing, expanded, and emerging roles relating to specialization. Optional laboratory for theory testing and systematic observations.

221B. Role Development: Specialized Nursing Roles. (2-3) § F, W. Prerequisite: Nursing 211A or equivalent and consent of instructor. Lecture 2 hours, Lab 0-3 hours. 

Prof. Oda 

A lecture/seminar focusing on the critical analysis of specialized nursing role development processes. Role research emphasized. Includes traditional, existing, expanded, and emerging roles relating to specialization. Optional laboratory for theory testing and systematic observations.

221C. Role Development: Specialized Nursing Roles. (2-3) § Sp. Prerequisite: Nursing 211A or equivalent and consent of instructor. Lecture 2 hours, Lab 0-3 hours. 

Prof. Oda 

Lecture/seminar focusing on the critical analysis of specialized nursing role development processes. Role research emphasized. Includes traditional, existing, expanded, and emerging roles relating to specialization. Optional laboratory for theory testing and systematic observations.

222. Maternal Child Nursing. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. Nichols, L. Reynolds 

Critical analysis of clinical interventions with young retarded children. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. Pothier 

Critical analysis of clinical interventions with young retarded children with the intent to develop research consumerism. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences.

211.28. Critique of Studies in Maternal-Child Nursing. (3) § W, Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Hallburg 

Critique of studies in maternal-child nursing with the intent to develop research consumerism. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences.

211.028. Critique of Studies in Maternal-Child Nursing. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Nursing 211A or its equivalent and consent of instructor. 

J. Swanson 

Prerequisite: Consent of instructor. Lecture 2 hours, Lab 0-6 hours. 

Practicum available through Nursing 406. 

212. Nursing Measurements and Patient Monitoring. (3) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. Beaumont 

Focus is on exploration of immature physiological and pathophysiological processes and their implications, and planning nursing management of the acutely ill child. Students employ the problem-oriented framework to assess and manage theoretical patient problems. Practicum optional.

212A. Research Design and Specialized Nursing Roles. (2-3) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab optional 0-3 hours. 

Prof. Oda 

A lecture/seminar focusing on the critical analysis of specialized nursing role development processes. Role research emphasized. Includes traditional, existing, expanded, and emerging roles relating to specialization. Optional laboratory for theory testing and systematic observations.

212B. Role Development: Specialized Nursing Roles. (2-3) § F, W. Prerequisite: Nursing 211A or equivalent and consent of instructor. Lecture 2 hours, Lab 0-3 hours. 

Prof. Oda 

A lecture/seminar focusing on the critical analysis of specialized nursing role development processes. Role research emphasized. Includes traditional, existing, expanded, and emerging roles relating to specialization. Optional laboratory for theory testing and systematic observations.

213A. Nursing Care of the Acutely Ill Child. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. J. Ward 

Focus is on exploration of immature physiological and pathophysiological processes and their implications, and planning nursing management of the acutely ill child. Students employ the problem-oriented framework to assess and manage theoretical patient problems. Practicum optional.

213B. Nursing Care of Acutely Ill Children. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. J. Ward 

Focus is on exploration of immature physiological and pathophysiological processes and their implications, and planning nursing management of the acutely ill child. Students employ the problem-oriented framework to assess and manage theoretical patient problems.

214. Early Postpartum: High Risk Parenting. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. 

Prof. Zaler, Dunbar 

Course focuses on the puerperium, early maternal/paternal newborn relationships and the nurse's role in facilitating mother-infant acquaintances and attachment. Exploration of impact of premature in-
222A. A Survey of Modern Psychiatric Thought. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.
K. Porter, Underwood
Selected theories related to human behavior will be presented. Clinical application of, and research related to theories will be reviewed. Lecture-discussion on psychiatric personality theories will focus on interpersonal models.

222B. A Survey of Modern Psychiatric Thought. (3) § W. Lecture 3 hours.
J. Gorman, Pothier
Selected theories related to human behavior will be presented. Clinical application of, and research related to theories will be reviewed. Lecture-discussion on interpersonal theories of human behavior will focus on Piaget's theory and behavioral theory.

222C. A Survey of Modern Psychiatric Thought. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.
A. Davis
Selected theories related to human behavior will be presented. Clinical application of, and research related to theories will be reviewed. Lecture-discussion on interpersonal theories of human behavior will focus on communication and systems theory.

233. Theories of Brief Psychotherapy. (2) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.
Seminar focusing on selected theoretical models of brief psychotherapy. Emphasis will be placed on the therapist's assessment and treatment with the brief psychotherapy model.

234. Current Trends in Group Psychotherapy. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.
Dyer
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.

235. Psychotherapy Process in Nursing. (3) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours.
J. Moore
In-service seminar on the psychotherapeutic process in nursing. Material drawn from recent research in social science, psychiatry, and psychiatric nursing.

236. Nursing in Long-Term Illness. (3) § F, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours.
Hallburg
Intensive study of problems related to long-term illness. Discussion of the interrelationship of various cultural, psychosocial, and pathophysiological factors involved in continuing health problems. Field experience included.

237. Conceptual Approaches to Functional Psychoses. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
Underwood, K. Porter
Lecture-seminar with emphasis on comparative study and analysis of selected biologic, sociologic and psychological theories of schizophrenia and depression. Selected research is analyzed. Lab includes computer simulation and research findings in relationship to nursing practice.

228. Communications — Theoretical and Philosophical. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-4 hours.
The concept of communication has become one of the overlapping areas in a number of disciplines. This course explores the interpersonal and philosophical writings which have made the concepts and problems of human communication central to the study and practice of communication.

239. Crisis Intervention. (2-4) § F, W. Lecture 2 hours, Lab 0-4 hours.
C. Mitchell
A seminar to focus theories of crisis and innovative uses of crisis intervention in selected nursing areas. Emphasis is on stress as the antecedent of crisis, adaptive and maladaptive coping as behavioral manifestations, and intervention techniques to facilitate successful resolution.

230. Legislative Processes and Strategies. (2-4) § W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 0-4 hours.
Claus
Exploration of legislative processes which affect professional practice. Analysis of strategies for enrollment, passage, implementation, and evaluation to legislation. Examination of concepts and principles of professional lobbying, systems management of governmental processes, and the role of research, and expertise in policy making.

231A. Nursing Administration. (4) § W. Prerequisite: Consent of instructor. Lecture 4 hours.
Bailey
An advanced course designed to apply major concepts in organizational theory and management to nursing administrative practice. Emphasis on systems approach and relevant analytical techniques that will enable students to conceptualize and analyze problems in nursing administration.

231B. Nursing Administration. (4) § Sp. Prerequisite: Nursing 231A and consent of instructor. Bailey
An advanced course designed to apply major concepts in organizational theory and management to nursing administrative practice. Emphasis on systems approach and relevant analytical techniques that will enable students to conceptualize and analyze problems in health care settings.

232A. Dimensions of Leadership. (2-4) § F. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 0-4 hours.
Claus
Overview of concepts, theories, principles, and research studies related to leadership and adjunct systems in nursing administration. Focuses on the management of large and small units. Laboratory includes computer simulation.

232B. Dynamics of Leadership. (2-4) § W or Sp. Prerequisite: Nursing 232A or consent of instructor. Lecture 2 hours, Lab 0-4 hours.

Analysis of interactive variables and functional relationships of leadership: characteristics of the leader; laboratory case simulations; and research findings in relationship to nursing practice.

232C. Problems in Leadership. (2-4) § Sp. Prerequisite: Nursing 232A and 232B or consent of instructor. Lecture 2 hours, Lab 0-4 hours.
Gorton
Course examines research findings dealing with the leadership of professional nursing groups and the effects of leadership styles on group behavior and performance.

233. Coping Styles of Children. (3) § Sp. Prerequisite: Consent of instructor, Lecture 2 hours, Lab 3 hours.
Dunbar
Examination and assessment of individual coping styles in young children. Theoretical framework based upon Murphy, Lazarus, Menninger, and others. Laboratory data collection, computer simulation and intervention techniques related to stress periods and coping patterns in children.

234. The Threat of Death in Clinical Practice. (3) § F, W or Sp. Lecture 3 hours.
Lagerquist
Seminar providing opportunity for discussion about multiple issues which come into play when adult patients face death. Focuses on meaning of dying from the perspectives of persons undergoing the experience and problems of health professionals working with dying patients.

235. Process of Aging: Implications for Nursing Care. (2-4) § F, W or Sp. Lecture 2 hours, Lab 0-4 hours.
Takano, Morisky
Study of the physiologic, psychological coping and sociological aspects of aging. Focus is on selected theories and research relevant to nursing care of the aged. Laboratory utilizes a variety of settings serving the aged.

236. Expectant Parent Group Education. (3) § F, W. Prerequisite: Consent of instructor. Lecture 4 hours.
F. Abbott
Theoretical sessions related to methodology and teaching of expectant parent education. Laboratory includes computer simulation and planned change.

237. Common Problems in School Health. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours.
Balley
Course examines research findings dealing with normal cognitive, emotional, and social development during the elementary school years.

238. Adolescent Development. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours.
Waechter
Exploration of the relevant theories, literature, and research findings dealing with normal cognitive, emotional, and social development during the adolescent period.

239A. Care of Patients with Pulmonary Problems. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.
E. Clarke, Flood
A comprehensive study of the nursing care of patients with pulmonary problems. Examination of the theoretical bases for selected nursing actions and techniques used by the patient and nursing problems. Exploration of the theoretical bases for nursing decisions and nursing actions.

239B. Care of Patients with Pulmonary Problems. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. Offered in alternate years. Offered 1978-79.
Flood, E. Clarke
A comprehensive study of the nursing care of patients with pulmonary problems. Examination of the theoretical bases for selected nursing actions and techniques used by the patient and nursing problems. Exploration of the theoretical bases for nursing decisions and nursing actions.

239C. Care of Patients with Pulmonary Problems. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. Offered in alternate years. Offered 1978-79.
Waechter
A comprehensive study of the nursing care of patients with pulmonary problems. Examination of the theoretical bases for selected nursing actions and techniques used by the patient and nursing problems. Exploration of the theoretical bases for nursing decisions and nursing actions.

239D. Clinical Decision Making. (3) § F, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours.
Barstow
The theoretical basis for decision making in the management and teaching of adults, with emphasis on obstructive lung disease in acute and chronic settings. Examination of coping mechanisms, teaching-learning strategies, and related research as applied to individual patient situations.

241A. Theoretical Basis of Cardiovascular Nursing. (3) § W. Lecture 3 hours.
L. Friese
A study of cardiovascular theories applicable to...
nursing practice. Focus will be on selected physiology and pathophysiology that support selected nursing interventions.

241.018. Theoretical Basis of Cardiovascular Nursing. (3) § F. Prerequisite: Nursing 241.01 or consent of instructor. Lecture 3 hours. Stotts

A study of cardiovascular theories applicable to nursing practice. Focus on selected patho-physiology and nursing interventions.

241.02. Renal Nursing: A Physiological Basis. (3) § W. Sp. Prerequisite: Consent of instructor. Lecture 3 hours. E. Clarke

Exploration of physiological concepts and principles pertinent to selected renal pathophysiology. Application of these principles to nursing assessment and the care of patients with renal problems.

241.03. Pharmacology for the Cardiopulmonary Patient. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. E. Clarke

Examination of the physiological and pathophysiological changes associated with cardiovascular nursing problems and their amelioration by drugs affecting the autonomic nervous system and cardio-respiratory-core systems. Review of relevant anatomy, physiology and drug action included.

242. Psychophysiological Concepts in Action. (3) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours. E. Clarke

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

243. Nursing Management of Metabolic Alterations in Surgical Patients. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. E. Clarke

Study of surgical patients and their metabolic alterations, and their amelioration by drugs affecting the autonomic nervous system and cardio-respiratory-core systems. Review of relevant anatomy, physiology and drug action included.

244. Theoretical Basis of Cardiovascular Nursing Practice. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Stotts, L. Frissel

Application and testing of theories, concepts, and principles of cardiovascular nursing in the preoperative and postoperative period. Emphasis is on the physiological and pathophysiological changes associated with cardiovascular nursing problems and the nurse's role in promoting or inhibiting those alterations.

245. Nursing Management of the Surgically Ill Patient in the Perioperative and Postoperative Period. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Stotts, L. Frissel

Exploration and testing of theories, concepts, and principles of cardiovascular nursing in the preoperative and postoperative period. Emphasis is on nursing management of the high risk patient with selected medical complications.

246. Theory of Group Psychotherapy. (2) § W. Sp. Prerequisite: Nursing 112 or consent of instructor. Lecture 1 ½ hours, Lab 1 ½ hours. M. Kramer

Dyson

Theory of Group Psychotherapy based on psychoanalytic, interpersonnel, and communication theories pertinent to practice of group psychother-apy. Exploration of differing models of therapy, basic principles and techniques of group therapy, and role of psychiatric nurse as leader.

253. Research in Small Group Behavior. (3) § Sp. Prerequisite: Nursing 211A and consent of instructor. Dyson

A comprehensive analysis of research design, theory, concepts, and methodology applied to the group process. Variables such as group interaction, performance, decision-making, and group structure will be examined with an emphasis on measurement and experimental design.

254.01. Maternal Physiology and Clinical Assessment. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. Rees

Study of normal pregnancy, early labor and delivery, and the physiological changes that occur during pregnancy and childbirth. Emphasis will be on reproductive systems, endocrine and neuroendocrine systems, and cardiopulmonary systems. Clinical experience will relate physiology to clinical observation.

254.02. Fetal-Newborn Development. (2-4) § Sp. Prerequisite: Consent of instructor. Lecture 2-3 hours. Lab 0-3 hours. Dulock, Rees

Exploration of the critical phases and processes of fetal growth, development and function as a basis for understanding the genesis of congenital anomalies, pathophysiological problems in the newborn and the nursing implications.

254.03. Nursing Care of High Risk Pregnancy. (2-4) § F. Prerequisite: Consent of instructor. Lecture 2-3 hours, Lab 0-3 hours. Dulock

Exploration of obstetrical physiological effects affecting the maternal-fetal unit in high risk pregnancies. Clinical experience will be provided for integration of theory.

254.04. Nursing Care of High Risk Newborns. (2-4) § F. Prerequisite: Consent of instructor. Lecture 2-3 hours, Lab 0-3 hours. Dulock

In-depth theoretical exploration of the physiological and pathophysiological effects affecting the normal and high risk newborn. Current medical and nursing research findings will be incorporated.

255.01. Health Assessment of Women in the Reproductive Years. (3) § M. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. Durand

Emphasis on parents as participants in assessment and management of common health problems and normal developmental stresses in infancy and childhood.

255.03. Management of Common Pediatric Illness. (4) § Sp. Prerequisite: Nursing 253.01 and consent of instructor. Lecture 2 hours, Seminar 2 hours. J. Phillips

Covers theoretical basis of physiological and psychological principles necessary for understanding management of common pediatric illnesses. Provides format for integrating material with clinical findings, utilizing developmental and communication concepts in assessment and management. Collaborative roles between nurse, family and physician emphasized.

256. Therapeutic Use of Play. (2) § F, W. Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Hardgrove

Practical experience using play materials, techniques, and methods, in relating to young children to increase the graduate nursing student's observational skills and afford opportunities to test and develop theories of child development. Practicum optional.

257A. Children at Risk. (3) § W. Prerequisite: Nursing 236A, 236B or 236C or equivalent and/or consent of instructor. Lecture 2 hours, Lab 3 hours. Miller

Introduction to assessment of temperamental and constitutional factors in child development and early recognition of vulnerability for developmental deviations; assessment of child rearing styles and environmental impact on quality of life. Emphasis on designing a conceptual framework for individual assessments.

257B. Children at Risk. (3) § Sp. Prerequisite: Nursing 257A. Lecture 2 hours, Lab 3 hours. Miller

Exploration of health problems related to children at risk: developmental deviations, handicapping conditions affecting developmental sequences. Lecture 3 hours. Miller

Index to assessment of temperamental and constitutional factors in child development and early recognition of vulnerability for developmental deviations; assessment of child rearing styles and environmental influences on children. Emphasis on developing a conceptual framework for individual assessments.

258. Intrapartal Nursing. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. Mercer

Exploration of theories of pain perception and clinical course of normal labor and delivery. Social, cultural and psychological factors influencing the laboring mother and her role in childbirth are studied currently with clinical data. Practicum available through Nursing 406.

259. Health Assessment of Women in the Reproductive Years. (4) § F. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. Neeson

Presentation of theoretical principles of child health assessment. Areas to be covered include exploration of methodologies of data-gathering and data-analysis to enhance the comprehensive health assessment of infants and children. Laboratory for testing and integration of theory.

259.02. Child Health Maintenance. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Dyson

Course provides exploration of theories, concepts and knowledge for comprehensive child health maintenance, encompassing prevention and promotion. Emphasis on parents as participants in assessment, planning and management of common health problems and normal developmental stresses in infancy and childhood.
16 Principles and theories of assessment of women’s reproductive health; methodologies of data gathering and analysis as they relate to pregnancy, the interconceptional period, and the menopausal transition. Consideration of social, cultural and ethnic variations.

259.03 Women's Reproductive Health: Theories and Management. (3) Sp. Prerequisite: Nursing 259.01 or consent of instructor. Lecture 2 hours, Seminar 1 hour.

Exploration of theories, concepts and knowledge necessary to maintain and promote women’s reproductive health. Emphasis on application of current research; decision making and management of pregnancy, the interconceptional period and the menopausal transition, including collaboration with health team members.

259.03. Special Problems in Women’s Reproductive Health: Theories, Assessment, and Management. (3) Sp. Prerequisite: Nursing 259.01 and 259.02 or consent of instructor. Lecture 2 hours. Seminar 1 hour.

Nesson

Theory and management of bio-psycho-social deviations from normal in women before and during pregnancy, the interconceptional period, and the menopausal transition. Emphasis placed on critical analysis of research in metabolic, infectious and functional disorders including collaborative management of women manifesting these disorders.

261. Introduction to Computer-based Instructional Systems in Nursing Education and Practice. (2-4) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 2-4 hours. Claus, Kamp, Veatch, Gorton

Focus is on computers to aid instruction in nursing education and practice. Concepts, principles and methods of computer-based instruction will be discussed. Laboratory provides opportunities to design and write computer programs to evaluate use of computerized systems.

262. Conceptualization in Psychiatric Nursing. (3) Sp. Prerequisite: Nursing 222A and 222B. Consent of instructor. Lecture 2 hours. Lab 3 hours. Underwood Seminar focusing on psychiatric personality theories in psychiatric nursing conceptual framework for clinical practice and research. Major emphasis is on use of theory by psychiatric nurses in developing conceptualizations for practice and research. Students are expected to develop beginning conceptualization.

263A. Nursing Evaluations of the Long Term Client. (3) W. Prerequisite: Consent of instructor. Lecture 3 hours. Davidow

Selected frameworks for assessment, analysis of data and presentation of diagnoses are explored as related to long term care clients in institutional and community settings. Core classes and small group activities are organized around students' interests.

266A. Research Conceptualization. (3-5) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. lab 3 hours.

Davidow

Examination of research approaches to program planning and evaluation. Focus is on definition and design of conceptualization. Focus is on problem definition and instrument construction.

266B. Research Methods in Program Planning and Evaluation. (3) W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Archer

Exploration of research approaches to program planning and evaluation, emphasizing conceptualization of the evaluation problem, developing a research design and methods. Focus is on problem definition and instrument construction.

266C. Research Methods in Program Planning and Evaluation. (3) Sp. Prerequisite: Nursing 265A and consent of instructor. Lecture 2 hours. Lab 3 hours. Archer

Application of research approaches to program planning and evaluation. Focus is on data collection, analysis and interpretation.

268. Current Professional Issues in Nursing. (2-4) W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. A.J. Davis

Course focuses on theoretical applications to nursing practice, nursing research, and health policy. Focus is on current professional issues applicable to family interaction with emphasis on the developmental needs of the patient across the lifespan. Seminar focuses on theoretical applications to nursing problems in the maintenance of family health.

268. Current Professional Issues in Nursing. (2-4) F. W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. A.J. Davis

Presentation and discussion of current issues and trends toward client goal achievement and independence. Concurrent practicum required.

269. Health Assessment of the Adult. (4) W. Prerequisite: Consistent enrollment in Nursing 406. Consent of instructor. Lecture 2 hours. Lab 3 hours. Rosenaur

Course presents conceptual framework for complete assessment of adults in primary care. Introduces systematic approach for collecting, interpreting, and applying clinical data derived from history and physical examination. Emphasizes pathophysiological bases of signs, symptoms. Incorporates framework for health maintenance of adults.

271A. Clinical Management of Common Adult Problems. (4) W. Prerequisite: Nursing 270 or consent of instructor. Concurrent enrollment in Nursing 406.

Resnik

Course introduces concepts essential in the management of common health problems of adults in primary care. Focus is on dimensions of quality assurance. Emphasis on quality assurance and psychosocial and pathophysiological aspects of illness. Focus is on process of clinical decision-making through case method approach utilizing current research.

271B. Clinical Management of Common Adult Problems. (4) W. Prerequisite: Consent of instructor. Lecture 2 hours. Resnik

Course introduces concepts essential in the management of common health problems of adults in primary care. Focus is on process of clinical decision-making through case method approach.

272. Prospective Health Care of Adults. (2) W. Prerequisite: Consent of instructor. Lecture 2 hours. Staff

Course introduces principles of health maintenance and health care for adults. Includes history of health care delivery, health care delivery systems, health systems management, health insurance, and health policy. Focus is on health care delivery systems and health policy. Seminar focuses on theoretical applications to nursing problems in the maintenance of family health.

272. Prospective Health Care of Adults. (2) W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Savedra, Mercier

Exploration of selected ethical dilemmas and ethical dilemmas in health care and nursing practice. Focus is on selected case studies depicting ethical dilemmas in nursing practice, nursing research, and health policy.
Emphasis is on clinical approaches useful in nursing practice.

160. Foods and Nutrition. (2) Sp. Prerequisite: Nutrition 103B. Lecture 1 hour, Lab 3 hours. Vinson
Emphasis on practical aspects of nutrition such as diet evaluation, obtaining diet histories, and nutrition education. Panel discussions of pertinent topics in nutrition are included.

180. Nutrition Counseling for Preventive Dentistry. (1) F. Prerequisite: Consent of instructor, Lab 1 hour. Staff
Nutrition counseling with dental clinic patients. Students will apply techniques of diet analysis, preventive program planning, and patient counseling.

181. Nutrition Counseling for Families. (3) F. Pre- 

requirements: Consent of instructor and chairman of the department. Staff
Course provides theory and practice in the interpretation of current concepts and principles of nutrition counseling with an emphasis on cultural nutrition.

Obstetrics, Gynecology and Reproductive Sciences

110. Core Clerkship in Obstetrics and Gynecology. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours. Staff
Opportunity to apply theory in clinical practice to further develop skills and to extend clinical expertise in selected aspects of family health care nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills.

407. Practicum in Physiological Nursing. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours. Staff
Opportunity to apply theory in clinical practice to further develop skills and to extend clinical expertise in selected aspects of physiological nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills.

409. Continuing Education Residency. (6-12) F, W, Sp. Prerequisite: Nursing 201 or equivalent, and consent of instructor. Lab 16-36 hours. Staff
Opportunity to apply theory and evaluate clinical concepts, and skills in the work setting under the supervision of a preceptor. Focus is on development of the Continuum of Care Specialist role in meeting continuing education needs of registered nurses.

119. Nutrition*1

An introduction to the basic principles of human nutrition. The material is related to the maintenance of normal nutrition throughout one's life span, and emphasis is on normal nutrition and its preventive role in maintaining general health, specifically oral health.

132. Principles of Diet as Therapy in Nursing Intervention. (2) W, Sp. Prerequisite: Nursing 110 or consent of instructor. Gutiérrez
Concepts of dietary modification as required in the prevention and treatment of major disease entities.

Nursing / Obstetrics, Gynecology and Reproductive Sciences

404.06B. Clinical Residency-Pediatric Nurse Associate. (4) Sp. Prerequisite: Nursing 404.06A and consent of instructor. Lab 12 hours. Duran
Course offers opportunity to apply and evaluate theories, concepts, and skills in the work setting under supervision of a preceptor. Focus is on development of the pediatric clinical specialist role in ambulatory child health care.

405. Practicum in Mental Health and Community Nurs- 

ing. (1-8) W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours. Staff
Opportunity to apply theory in clinical practice to further develop skills and to extend clinical expertise in selected aspects of mental health and community nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills.

406. Practicum in Family Health Care Nursing. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours. Staff
Opportunity to apply theory in clinical practice to further develop skills and to extend clinical expertise in selected aspects of family health care nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills.

407. Practicum in Physiological Nursing. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours. Staff
Opportunity to apply theory in clinical practice to further develop skills and to extend clinical expertise in selected aspects of physiological nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills.

409. Continuing Education Residency. (6-12) F, W, Sp. Prerequisite: Nursing 201 or equivalent, and consent of instructor. Lab 16-36 hours. Staff
Opportunity to apply theory and evaluate clinical concepts, and skills in the work setting under the supervision of a preceptor. Focus is on development of the Continuum of Care Specialist role in meeting continuing education needs of registered nurses.

119. Nutrition*1

An introduction to the basic principles of human nutrition. The material is related to the maintenance of normal nutrition throughout one's life span, and emphasis is on normal nutrition and its preventive role in maintaining general health, specifically oral health.

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Concepts of dietary modification as required in the prevention and treatment of major disease entities.
Operative Dentistry


Clinical instruction.


Beginning techniques in operative dentistry. Five hours of lecture on the theory and principles of cavity design and preparation are included in the spring quarter.


Continuing techniques in operative dentistry. One hour of lecture each week accompanies the laboratory work; lectures reinforce principles taught in the laboratory. Clinical rotation is included.

130A-C. Operative Theory. (2-1-1) F, W, Sp. Prerequisite: Operative Dentistry 115A-B-C and 125A-B. Clinic variable. Schuchard and Staff

This course must be taken concurrently with Operative Dentistry 109.


Clinical instruction for third year students.


Clinical instruction for fourth year students.


Lectures and televised demonstrations covering quadrants of operative dentistry, washed field techniques, complex restorations, analysis of related research, and clinical applications of the various restorative procedures.

180.01. Advanced Operative Dentistry Theory. (1) W. Prerequisite: Operative Dentistry 180. Lecture 1 hour. F, W, Sp. Schuchard and Staff

Continuation of Operative Dentistry 180.


Continuation of Operative Dentistry 180.01. Organization of the material is planned to enrollment to progress of students enrolling in the 180 series.

189. Direct Gold Restorative Procedures. (1) F, W, Sp. Prerequisite: Open to fourth year students. Lecture 1 hour for 5 weeks. Clinical 3-6 hours. Schuchard

Enrollment limited.

Schuchard

Techniques and procedures for Class III restorations using the conservative approach, as well as wedge and matrix. Work also will be done on Class V direct gold restorations. Students learn to use various materials including fibrous gold, goldent, and cements.

189.01. Advanced Clinical Operative Dentistry. (0-25) F, W, Sp. Prerequisite: All previous courses in operative dentistry curriculum sequence. Clinic Variable. Schuchard and Staff

Continuation of clinical experience at the level of Operative Dentistry 109.

189.02. Advanced Clinical Operative Dentistry. (0-4) F, W, Sp. Prerequisite: Approval of the chairman of the division. Clinic 0-12 hours. Clinic variable. Schuchard and Staff

Advanced instruction in the field of clinical operative dentistry, utilizing procedures different from those presented at the level of Operative Dentistry 109, such as quadrants and plastics.

198. Laboratory Project in Operative Dentistry. (1-5) F, W, Sp. Prerequisite: Approval of the Dean. Schuchard and Staff

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

Ophthalmology

First-Year Coordinated Instruction — Medicine 131A-B-C. Lecture-demonstrations and section work devoted to the supervised examination of patients. Clinical experience and small group instruction is provided in diagnosis and treatment planning.

Core Clerkship — Surgery 110 and 111 includes lectures and clinical experience in the diagnosis and care of eye diseases.

140.01. General Ophthalmology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. S. Kramer

Clinical observations of patients in clinic, wards, and surgery. Seminar in ophthalmic pathology, microbiology, and optics at UC.

140.02. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. S. Kramer

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

140.03. Clinical Clerkship at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Goodner

Clinical observation of patients in the clinics, wards and surgery at SFGH.

140.04. Clinical Clerkship at L. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. S. Kramer

Clinical observation of patients in the clinics, wards and surgery at SFGH.

150.01. Ophthalmologic Pathology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. J.B. Crawford

Seminar includes gross and microscopic ophthalmic pathology with clinical correlation of cases from the Eye Clinic, wards, and other hospitals.

150.02. Research in Ophthalmology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor and chairman of the department. S. Kramer

A research project under the direction of a member of the faculty carried out in the Department of Ophthalmology.


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.

140.01. Ophthalmology Staff Conference. (1½ per week) Su, F, W, Sp. S. Kramer

Residents and present diagnostic and therapeutic problem presentation by faculty members, medical students, and visitors follows. Residents also present papers on various aspects of medicine and ophthalmology which are discussed by faculty members.

401. Conferences at SFGH and VA. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. S. Kramer

Conferences include grand rounds and case presentations of hospital patients, review of recent literature in ophthalmology, and assigned reading with required reports.


Seminars include didactic lectures in practical work covering pathology, neuro-ophthalmology, uveitis, physiological optics, retaction, corneal motility, glaucoma, and microbiology.

403. Basic Ophthalmologic Science Course. (8) Su. Required for first year residents. S. Kramer

Didactic lectures and demonstrations cover the basic sciences as applied to ophthalmology. These include anatomy, histology, biochemistry, physiology, and pharmacology.


Residents, under supervision, are responsible for patients in the Eye Clinic. First year residents assist in eye surgery and the Eye Bank program. Specialty clinics include external diseases, extracranial muscles, medical ophthalmology, ophthalmoscopy, retion, cataract, glaucoma, neuro-ophthalmology, plastic surgery, and tumor.


Residents, under supervision, are responsible for patients in the Eye Clinic. First year residents assist in eye surgery and the Eye Bank program. Specialty clinics include external diseases, extracranial muscles, medical ophthalmology, ophthalmoscopy, retion, cataract, glaucoma, neuro-ophthalmology, plastic surgery, and tumor.

Oral Diagnosis

109. Oral Clinical Diagnosis. (0-1) F, W, Sp. Prerequisite: Third year standing. Clinic 30 hours. Braly and Staff

Credit is assigned on a point basis for Independent case work-ups and case presentations.

109.01. Oral Diagnosis and Roentgenology Rotation. (0-1/2) F, W, Sp. Prerequisite: Third year standing. Clinic and Seminar Block rotation 60 hours. Braly and Staff

Clinical experience and small group instruction is provided in comprehensive diagnosis and treatment planning, emergency dental care, clinical photography, and roentgenology.

109.02. Dental Emergency Clinic. (0-1) F, W, Sp. Prerequisite: Oral Diagnosis 109.01. Clinic rotation 30 hours. G. Hall

Experience in the provision of dental emergency care in the UC Clinics and in the initial evaluation of persons seeking dental care. Instruction is provided on an individual and small group basis.

116A-B-C. Clinical Dentistry. (0-4, 0-4, 1½) F, W, Sp. Lecture 1 hour F, W; Clinic 3 hours F, W; 4 hours Sp. Braly

An introduction to concepts of dental health and disease and a recognition of these through a multidisciplinary clinical orientation program.

129. Diagnosis and Treatment Planning. (2) Sp. Prerequisite: Oral Diagnosis 116A-B-C. Clinic and Seminar 6 hours. Maxwell

Small group instruction is provided in comprehen-
Clinical oral pathology for the dental hygienist. Diagnosis and management of some common oral lesions are covered. Use of diagnostic aids and methods of treatment are emphasized.

170. Temporomandibular Joint Seminar. (1) F, W, Sp. Prerequisite: D.D.S. degree. With consent of instructor, fourth year students may take this course as an elective.

Seminar series covering differential diagnostic techniques and treatment approach to temporomandibular joint disease.


Christie (F), Savostin-Ailing (W, Sp)

Advanced study of the oral tissues, with emphasis on their histophysiologic aspects.


A seminar designed to acquaint postdoctoral students with current advances, techniques, trends, and developments in the field of oral pathology.


Greenspan, E. Daniels

Lectures and seminars on immunological mechanisms and immunologic reaction of oral diseases. Topics to be covered include the immunology of periodontal disease, oral microbial diseases, management of patients with immunologic disorders, and discussion of the interface of immunopathology and inflammation.


Hansen and Staff

Lectures and seminars on diseases of the oral region. Disease entities are studied from a clinical and histomorphologic standpoint with emphasis on etiology and pathogenesis.

179. Oral Medicine. (0-2) F, W, Sp. Prerequisite: D.D.S. degree. Consent of instructor, fourth year students may take this course as an elective. Due to patient commitments in the clinic, students, once selected, may not withdraw. Clinic 20-30 weeks.

R. Taylor

Participation in the Temporomandibular Joint Clinic applying knowledge of history-taking and differential diagnosis and utilizing such diagnostic techniques.

180A-B-C. Clinical Pathology Conference. (1-1) F, 1-2) Sp. Prerequisite: Fourth year standing. Lecture 1½ hours.

All Students

Clinical pathology conference; biology, diagnosis, and treatment of various oral lesions and associated patient problems. Cases are critically reevaluated in the light of current research advances. Specific medical knowledge is related to patient care.

181. Forensic Odontology. (1) Sp. Prerequisite: Fourth year standing and consent of instructor. Lecture 1 hour.

L. Hansen and Staff

Identification by means of dental evidence, known as forensic odontology, involves the discussion of identification procedures in single and multiple deaths, including homicides and mass disasters, forensic dentistry including bite mark analysis, the medicolegal autopsy, fire research, and forensic anthropology.


Merrill

The advanced dental student participates in the diagnostic process by the application of principles learned in his dental education. Clinical oral pathology is placed on the horizon of clinical donut correlating the history, clinical, operative, radiographic, laboratory, and histopathological findings.

186. Introduction to the Biological Sciences. (1) SS. Lecture, Laboratory and Demonstration 9 hours for third-year students.

Introduction to the biological sciences taught in the first year of dentistry: anatomy, biochemistry, and physiology. Course includes one-half day per week orientation to the campus community.


Merrill

Participation in the Oral Medicine Clinic: apply knowledge of history-taking and differential diagnosis; utilize various diagnostic techniques such as clinical, microscopical, and radiographic laboratory tests; interpret results, prescribe treatment and follow-up; hospital rounds and weekly seminars.

189.03. Advanced Clinical Clerkship in General Dentistry. (1½ per week) F, W, Sp. Prerequisite: Fourth year standing and approval of Clinic Review Committee.

S. Silverman, Ware

Students provide comprehensive dental care to patients under the supervision of faculty or guests.


J. Greenspan

Lectures and seminars on immunological mechanisms and their contribution to oral diseases. Topics to be covered include the immunology of periodontal disease, oral microbial diseases, oral autoimmune disease, and discussions of the interface of immunology and immunopathology.

207. Oral Biology. (2) § F, W, Sp. Prerequisite: Biochemistry 207 or consent of instructor. Lecture 2 hours.

A seminar course in connective tissue biology concerned mainly with the development, differentiation, and pathology of connective tissues; includes such topics as regulation of connective tissue macromolecules, fibrosis, wound healing, inflammation, tissue destruction, and selection of genetic disorders.

209. Biology of Connective Tissue. (2) § Prerequisite: Biochemistry 207 or consent of instructor. Lecture 2 hours.

A seminar course covering current advances in research on oral biology in the context of clinical medicine. Current literature is critically reviewed by students under faculty supervision, or by faculty or guest lecturers.

211. Oral Pathology. (1½) F, W, Sp. Prerequisite: J. Greenspan

First-year students.

212. Seminar. (1½) F, W, Sp. Prerequisite: J. Greenspan

Reading and conferences under the direction of a member of the staff.

228. Thesis. (0-4) § F, W, Sp. Prerequisite: J. Greenspan

For graduate students engaged in writing the thesis for the master's degree.


Practice in teaching a course in oral biology under the supervision of the instructor.


J. Greenspan

Lectures and seminars on applied research methodology, production of problems, significance of findings, and critical evaluation of data.


Advanced considerations in the field of human anatomy and physiology. Applications of newer techniques and concepts are presented to increase understanding of the oral cavity in health and disease. Histology, diagnosis, and therapeutics are discussed.

284A-B. Oral Immunology and Immunopathology. (0-4) F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Two-quarter course.

J. Greenspan

Lectures and seminars on immunological mechanisms and their contribution to oral diseases. Topics to be covered include the immunology of periodontal disease, oral microbial diseases, oral autoimmune disease, and discussions of the interface of immunology and immunopathology.
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.

408A·B·C. Oral Pathology. (2-2-2) F, W, Sp. Lecture and Seminar 2 hours. L. Hansen
Lectures and seminars on diseases of the oral regions. Disease entities are studied from a clinical and histopathological standpoint with emphasis on etiology and pathogenesis.

S. Silverman
Participation in the Oral Medicine Clinic applying knowledge of history-taking and differential diagnosis; utilizes various diagnostic techniques such as biopsy, cytology, and certain clinical pathology laboratory tests; interpret results, prescribe treatment, and order special tests and follow-up; hospital rounds; ward rounds; and seminars.

489.02. Oral Medicine. (1) F, W, Sp. Prerequisite: Oral Medicine 489.01. D.S. Ware, R. Taylor and Staff
Participation in the Temporomandibular Joint Clinic applying knowledge of history-taking and differential diagnosis; utilizes such diagnostic techniques as laminationography X rays, occlusal analysis, and other specific joint tests; interprets results; prescribes treatment; and follows-up with patients.

Oral Radiology
109.01. Oral Radiology. (0-1) SS, F, Prerequisite: Oral Radiology 121. Lab Rotation 24 hours. Parks and Staff
A course in intraoral X-ray technique, including instruction in the long cone paralleling method, and panoramic technique on mannequins. Objective of the course is to prepare the student for clinical experience during the oral diagnostic course rotation.

121. Radiographic interpretation. (1) Sp. Lecture 1 hour. Parks
An introduction to the fundamentals of radiographic interpretation, some of the physics of X-ray generation, and radiobiology.

Course continues with Oral Radiology 121 and is intended to broaden the scope of radiographic interpretation. Additional aspects concerning radiation biology are included.

150. Oral Radiology for Dental Hygiene. (1½) W. Lecture 1 hour. W. Parks
Course covers basically the same material as Oral Radiology 121, but is modified to meet the special needs of the dental hygienist.

159. Oral Radiology. (1) W. Lab 3 hours. Parks
A course in intraoral X-ray technique including instruction in the long cone paralleling method and practice on mannequins and skulls.

169. Oral Radiology. (1) F. Prerequisite: Oral Radiology 150. Clinic 3 hours. Parks
Course offers in addition to intraoral technique, instruction in the basic principles of anatomical projection and use of panoramic radiography.

Parks
Continuation of Oral Radiology 121 and 131 in a seminar teaching format.

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

Oral Surgery
N. Gordon
Students learn to recognize and treat common oral surgical emergencies; perform routine exodontia and minor oral surgical procedures, assist on major procedures in operating rooms; setting; utilize common techniques of pain and anxiety control; admit, work-up, discharge hospital patients; perform cardiopulmonary resuscitation.

120. Local anesthetics. (1½) Sp. Khosla
Course covers local anesthetic technique as it pertains to the dentition and oral cavity.

130A. Oral Surgery. (1) SS. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture 1 hour.
N. Gordon
An introduction to the basic principles of exodontia, post-operative care, hemorrhage control, and medical emergencies.

130B. Oral Surgery. (1) F. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture 1 hour.
R. A. Smith
A didactic course outlining the basic principles of removal of unerupted teeth, some of the surgical anatomy of the hard and soft tissues of the oral and maxillary regions, tooth transplantation, wound healing, referrals and consultation.

130C. Oral Surgery. (1) W. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture 1 hour.
R. A. Smith
A didactic course outlining the principles of pain control with nitrous oxide and I.V. sedation; management of medically compromised patients; the general medical emergencies in the dental office are presented.

R. A. Smith
Procedural skills and academic knowledge of the general dentist should be familiar with: includes the treatment of cysts, infection, developmental deformities of the jaws and salivary glands, duct diseases, and procedures.

132. Medical Evaluation, Medical Emergencies, and Parenteral Administration of Drugs. (19) F. R. A. Smith
Medical evaluation of dental patients and in-depth evaluation and treatment of patients with medical problems, emphasis is on problems in oral and maxillofacial surgery.

Discussion of emergency drugs and development of an office emergency kit. Demonstration of various methods of intravenous administration of drugs.

C. W. Courage
Relationships of gross anatomical structures of the head and neck are studied during laboratory dissections. Emphasis is placed on the correlation of surgical anatomy to diagnosis and operating room surgery.

C. W. Courage
Orthodontic and oral surgery residents will participate in evaluating and defining treatment possibilities for patients with facial and occlusal deformities which may require combined therapy. Review and presentation of previously treated patients, and pertinent literature will be included.

175. Oral Surgery. (13) Su. Prerequisite: Limited to oral surgery interns. Hospital and Clinic 40 hours.
C. W. Courage
Principles of surgery and local anesthesia as related to the mouth and clinical operations on patients.

175.01A-B. Oral Surgery. (2-7, 2-7) F, W, Sp. Prerequisite: Limited to interns and residents. Lecture-Seminar 2 hours, Clinic 0-15 hours.
C. W. Courage
Continuation of Oral Surgery 175.

175.02. Oral Surgery. (1) Sp. Prerequisite: Oral Surgery residents. Seminar 2 hours, Hospital and Clinic 40 hours.
C. W. Courage
Continuation of Oral Surgery 175.01A-B.

175.03. Oral Surgery. (3) F. Prerequisite: Limited to oral surgery residents. Hospital and Clinic 40 hours.
C. W. Courage
Hospital procedures, ward rounds, and clinical practice in several hospitals; treatment of jaw fractures, osteomyelitis, cellulitis, and other complicated oral surgical procedures. Resident will have administrative responsibilities in conducting ward rounds and weekly conferences.

175.048-C. Oral Surgery. (10-10) W, Sp. Prerequisite: Enrollment in oral surgery residency. Lecture 2 hours, Hospital and Clinic 24 hours.
C. W. Courage
Continuation of Oral Surgery 175.03 with the addition of surgery of the jaws for correction of such facial deformities as prognathism, cleft lip and palate, and retroglossia. Training in temporomandibular joint and joint surgery.

175.05. Oral Surgery. (13) Sp. Prerequisite: Oral Surgery 175.048-C. Limited to oral surgery residents. Hospital and Clinic 40 hours.
C. W. Courage
Continuation of clinical oral surgery. Certain periods each week devoted to supervised instruction of undergraduate students.

C. W. Courage
Continuation of Oral Surgery 175.05.

C. W. Courage
Under oral surgery office conditions, and under immediate supervision of the staff, residents will be responsible for care and management of the ambulatory patient who is to undergo an oral surgery procedure under ambulatory anesthesia.

An elective didactic and demonstration course with practice in cardiopulmonary resuscitation. Emphasis on knowledge and capability of managing the psychomotor skills of cardiopulmonary resuscitation.

189.01. Advanced Oral Surgery Clinic. (0-8) Su. Prerequisite: Fourth year standing and consent of instructor. Clinic Variable.
C. W. Courage
Additional clinical experience in oral surgery.

C. W. Courage
Course provides limited experience in hospital oral surgery including assisting and performing oral surgery procedures, and aspects of preoperative and postoperative care as related to the ambulatory patient; orientation in hospital decorum and operating room procedures.

189.03. Hospital Oral Surgery. (0-3) F, W, Sp. Prerequisite: Oral Surgery 106. Consent of Instructor and approval of Clinic Review Committee, Clinic and Seminar at VA.
C. W. Courage
Course provides limited experience in hospital oral surgery including assisting and performing oral surgery procedures, and aspects of preoperative and postoperative care as related to the ambulatory patient; orientation in hospital decorum and operating room procedures.

189.04. Advanced Clinical Clerkship in Oral Surgery at UC and SFSH. (1½ per week) F, W, Sp. Prerequisite: Fourth year standing and approval of Clinic Review Committee.
C. W. Courage, Khosla
Students participate in the dental staff of hospital inpatients and outpatients. They also attend seminars and lectures.

C. W. Courage
A laboratory research project under direction of a member of the staff with the approval of the chairman of the department.

C. W. Courage, R. A. Smith, N. Gordon
Oral Surgery 125
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.
Lawson
Normal development of speech, consideration of speech and hearing defects as related to dental and orofacial problems.

171. Diagnosis and Treatment of Orofacial Anomalies. (2) F, W, Sp. Lecture 1 hour, Seminar and Clinic 3 hours.
Harvold, Chierici and Staff
Diagnostic, preventive, and corrective methods relative to patients with congenital malformations of the orofacial region are discussed.

Harvold
Diagnosis of orofacial malformations. Emphasis is on the interrelationship of morphology and physiology.

180.01. Speech Habilitation. (1) W. Seminar 1 hour.
Lawson
Normal development of speech. Introduction to the acoustic and linguistic elements. Consideration of the speech patterns, habits, and defects related to dental and orofacial problems.

180.02. Habilitation of Abnormal Orofacial Development. (1) F, W, Sp. Prerequisite: Fourth year standing or consent of instructor. Seminar and Clinic 3 hours.
Chierici, Harvold
The pathogenesis of jaw deformities, dental malocclusions, and speech disorders associated with congenital anomalies are discussed. Instruction in diagnosis and preventive and corrective treatment methods is given in the clinic.

181.01. Special Study for Advanced Undergraduates. (1) F, W, Sp. Prerequisite: Fourth year standing and consent of instructor and approval of Clinic Review Committee. Seminar and Clinic 3 hours.
Harvold
Instruction in biometric technique and methodology is given in connection with a selected research project.

A clinical survey, a clinical experiment, or an animal experiment is designed and analyzed.

Chierici and Staff
Prosthetic habilitation of the patient with orofacial malformations. The course includes principles and techniques of construction of obturators, speech appliances, and retention bridges.

Chierici and Staff
Diagnosis of orofacial malformations and current preventive and corrective measures. Emphasis is placed on the interdisciplinary management of orthopedics and clinical phenomena and the coordination of treatment by the various disciplines involved.

407. Orofacial Prosthetics. (1-3) W. Prerequisite: D.D.S. degree or equivalent. Seminar, Lab, and Clinic 3-9 hours.
Chierici and Staff
A course designed to acquaint the student with the many facets of prosthetic management of acquired defects. Relationships of prosthetics to speech, mastication, suspension, oral biology, and surgery are discussed. The interdisciplinary management of these problems is stressed.

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

109. Clinical Orthodontics. (8) F, W, Sp. Prerequisite: Orthodontics 121 and 130 or Trollin and Staff or equivalent. Seminar and Clinic 3 hours.
Prerequisite: Consent to diagnosis and recommended treatment for patients with orofacial malformations.

Evaluation and treatment of clinical orthodontic problems as experienced in general dental practice. Students will treat problems and refer others to dental specialists. Observation of specialists' management of the more difficult problems is also included.

121. Introduction to Growth and Development. (1) Sp.
Lecture 1 hour.
Lawson
Course describes the mode of growth of the craniofacial complex. General aspects of growth with emphasis on the growing child are discussed, including the eruption of teeth and their correlation with facial growth.

130. Basic Orthodontic Techniques. (1) SS. Lecture 1 hour for six weeks. Lab hours for six weeks.
R. M. Meyer
A lecture and laboratory course designed to enable the student to fabricate and place a removable orthodontic appliance, a lingual arch, and solder wires. Experience in producing study casts, and measurement and analysis of casts and headfilms will be included.

131A-B. Orthodontics in General Practice. (2-2, 2-2) F, W. Prerequisite: Orthodontics 121 and 130. Lecture 1 hour.
R. M. Meyer
Recognition and treatment of the problems most commonly seen by the general practitioner.

R. M. Meyer
Discussion of diagnostic techniques used in orthodontics, limitations of orthodontic treatment, and principles of treatment with edgewise appliances.

A discussion of recognition, etiology, and principles of orthodontics for the dental hygienist.

170A-B. Fundamentals of Orthodontics. (3-2) F, W. Lecture 3 hours, 2 hours W.
E. West
Classification etiology, and diagnosis of malocclusion. Study of the dentition and the relationships of dental and cranial structures.

170C. Fundamentals of Orthodontics. (2) Sp. Prerequisite: Orthodontics 170A-B. E. West
Continuation of Orthodontics 170A-B.

171B.C. Orthodontics in Periodontic Practice. (1-1) W, Sp. Prerequisite: Consent of instructor and enrollment in a postdoctoral specialty program. Lecture 1 hour.
E. West
Course includes orthodontic principles and techniques that are applicable in a periodontic practice.

Mathews
Research methods in the study of growth with findings relative to sites of growth, serial development of craniofacial growth, and factors influencing facial growth.

171.02. Biology of Dentofacial Development. (2) Sp. Prerequisite: Orthodontics 171.01 A-B, Mathews
Course deals with the biological and behavioral factors of craniofacial development, including the role of cartilage and bone as applied to dentofacial development of newborn babies, and physiology of tooth movement.

171.03A-B.C. Orthodontics in Pediatric Dentistry. (1-1) F, W, Sp. Prerequisite: Consent of instructor and enrollment in a postdoctoral specialty program, or consent of instructor.
R. M. Meyer
Course includes orthodontic principles and techniques that are applicable in a pedodontic practice.

R. M. Meyer
Continuation of Orthodontics 171.03A-B-C.

172A. Cephalometrics. (2) F. Seminar 2 hours.
Poulton
Use of lateral headfilms; reliability of landmarks, applications in dentistry. Technique of tracing, evaluation of relationships, and of superpositioning are discussed.

172B. Cephalometrics (2) W. Lecture 2 hours.
Poulton
Discussion of various analyses used in orthodontic diagnosis and growth changes in serial studies.

W. Watson
Course describes growth concepts in the prediction of facial growth as it applies to orthodontic treatment.

172.01B-C. Introduction to Orthodontic Research. (2-1) W. Sp. Lecture 2 hours W, 1 hour Sp.
Baumrind
Study of research methodology and statistical investigations. Special emphasis placed on critical reviews of selected scientific literature in terms of appropriate design, hypothesis testing, and generalization.

172.02A-C. Supervised Orthodontic Research. (2-2) F, W, Sp. Prerequisite: Orthodontics 172.01B-C. E. West
Participation in group and individual clinical investigations including experience in hypothesis generation, sampling, measurement, data acquisition, and data analysis.

173. Surgical Orthodontics. (1) F, W. Prerequisite: Enrollment in orthodontics residency program. Lecture 1 hour.
Poulton
Orthodontic and oral surgery residents will participate in evaluating and defining treatment possibilities for patients with facial and occlusal deformities which may require combined therapy. Review and presentation of previously treated patients and pertinent literature will be included.

Poulton and Staff
Evaluation and treatment planning of various types of malocclusion.

Baumrind
Research project and preparation of thesis.

Poultan and Staff
Seminar staff.

173.04. Treatment Planning. (3) SS. Seminar hours 3 hours.
R. M. Meyer
Seminar staff.

173.05. Special Study. (1) SS. Research hours.
Baumrind
Research project and preparation of thesis.

173.06. Treatment Evaluation. (3) SS. Seminar 5 hours.
E. West

174-B. Biomechanics. (2-1, F, W. Lecture 2 hours, 1 hour W.
Righills
Development of force systems and advanced orthodontic techniques.

174.01A-B. Primary and Mixed Dentition Diagnosis and Treatment. (1-1) SS 1, SS 2. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours for six weeks.
R. M. Meyer
Orthodontics, primary, and mixed dentition is designed to provide diagnostic information and treatment planning for malocclusions in the primary and mixed dentition periods of dental development.

174.02. Guest Lectures. (1) SS. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours for six weeks.
Poulton
Orthodontics 127

181. Occlusion. (1) S. Prerequisite: Orthodontics 121, 131A, and 131B. Seminar 1 hour. R.M. Meyer Various concepts of occlusion will be evaluated as they affect habilitation and functional problems of the temporomandibular joint.


179.04. Clinical Orthodontics (0-5) SS. Clinic 15 hours. E. West and Staff Continuation of Orthodontics 179.03A-B-C. A lecture series covering tumors and lesions of the mandible and maxilla; the musculoskeletal system, illustrated by microscopic slides and photographs of gross specimens. A lecture series covering tumors and lesions of the mandible and maxilla; the musculoskeletal system, illustrated by microscopic slides and photographs of gross specimens.

180. Continuation of Orthodontics 179.03A-B-C. A lecture series covering tumors and lesions of the mandible and maxilla; the musculoskeletal system, illustrated by microscopic slides and photographs of gross specimens.


188. Seminar in Orthopaedics: Seventh-Year Coordinated Instruction — Medicine 131A-B-C. Lecture-demonstrations and section work devoted to the supervised examination of patients. Tolouhi, Kyle, T. Smith, H. Smith Inclusion of elective clinical experience at various orthopedic centers.


413. Audiology Conference. (1 Su, F, W, Sp).


416. Combined Audiology and Otolaryngology-Staff Conference.


423. Combined Audiology and Pathology Course.


428. Combined Audiology and Pathology Course.


435. Combined Audiology and Pathology Course.


439. Combined Audiology and Pathology Course.


443. Combined Audiology and Pathology Course.


447. Combined Audiology and Pathology Course.


451. Combined Audiology and Pathology Course.


455. Combined Audiology and Pathology Course.


459. Combined Audiology and Pathology Course.


463. Combined Audiology and Pathology Course.


467. Combined Audiology and Pathology Course.


471. Combined Audiology and Pathology Course.


475. Combined Audiology and Pathology Course.


479. Combined Audiology and Pathology Course.


483. Combined Audiology and Pathology Course.


487. Combined Audiology and Pathology Course.


491. Combined Audiology and Pathology Course.


495. Combined Audiology and Pathology Course.


499. Combined Audiology and Pathology Course.


209. Applied Pathology. (3) § W. Prerequisite: Microbiology 126A-B and Pathology 126 or equival­ent. L. Greenspan

Weekly seminars are designed to provide students with an understanding of the basic principles of pathology. Emphasis is placed on research; students will critically review current literature in the field, under faculty supervision.

220. Seminar. (1) § F, W. Prerequisite: Permission of the chairperson of the department. R. Rambo Faculty members and visiting professors discuss recent developments in diagnosis and research in pathology.


For graduate students engaged in writing the thesis for the master's degree.

299. Dissertation. (0) § F, W, Sp. Prerequisite: Advancement to candidacy and permission of the grad­uate adviser. For graduate students engaged in writing the dissertation for the Ph.D. degree.

400. Pathology Staff Seminars. (1) F, W. Sp. Interns and residents. R. Rambo Faculty members and visiting professors discuss recent developments in diagnosis and research in pathology.

401. Special Pathology Seminars. (Units to be ar­ ranged) Su, F, W, Sp. Interns and residents. UC Rambo Seminars focusing upon the pathology of special areas of the body are conducted by specialists in the area under discussion. Course emphasizes correla­tion between the clinical manifestations of the disease and the gross and microscopic findings.

402. Pathology Research. (1-8) § F, W, Sp. Interns and residents. UC Rambo, SFGH McKay, Margarettten Students, under supervision, pursue original in­vestigative work in pathology and allied subjects. In­vestigators review the literature, make observations, and collect data correlating physiological with pathological development. They are encouraged to make original contributions.

404. Clinicopathological Conference. (1) F, W. Sp. Required for UC Rambo, SFGH McKay, Margarettten Conference includes the collection of data and materials, summary of histories, and citation of pertinent literature by faculty. Residents participate in clinicopathological conferences where emphasis is placed on correlation of clinical manifestations of disease with clinical laboratory and autopsy findings.


495. Pathologic Anatomy. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. J. Greenspan Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

100. Medical Genetics. (2) F. Lec: 2 hours. C. Epstein

Basic aspects of human genetics are presented in a context relevant to treatment, and counseling of genetic disorders and congenital mal­formations. Emphasis is placed on the application of genetic knowledge to actual counseling problems.

110. Required Clerkship in Pathology at UC, SFGH, C and L. (1½ per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences.

G. Grumbach, Grossman Practical experience in the ward, newborn nursery and outpatient clinics with emphasis on cases as­signments. Teaching and supervision by attending and resident staffs. Required seminars cover aspects of pediatrics, infectious diseases, and child psych­iatry.

140.01. Advanced Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. R. Rambo Advanced clerkship including: Normal newborn and IC Nursery; OPD Acute Care Unit; Inpatient at UC; OPD at SFGH; Outpatient clinics at L; Inpatient and outpatient at K; Inpatient and outpatient at CHMC; In­patient and outpatient at NRMC.

140.01A. Advanced Clinical Clerkship — Inpatient at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instruc­tor.

G. Grumbach, J. Hayes Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

140.01B. Advanced Clinical Clerkship — Outpatient at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instruc­tor.

G. Grumbach, J. Hayes Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

140.01C. Advanced Clinical Clerkship — Outpatient at L. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. G. Grumbach, J. Stewart

Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

140.01D. Advanced Clinical Clerkship — Outpatient at CHMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. G. Grumbach, G. Gersden Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

140.01E. Advanced Clinical Clerkship — Inpatient at CHMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. G. Grumbach, G. Gersden Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.


G. Grumbach, Grossman Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

140.01G. Advanced Clinical Clerkship — Inpatient at K. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. G. Grumbach, J. Hayes Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

140.01H. Advanced Clinical Clerkship — Outpatient at NRMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. G. Grumbach, J. Hayes Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

140.01I. Advanced Clinical Clerkship — Inpatient at NRMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. G. Grumbach, J. Hayes Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

140.01J. Advanced Clinical Clerkship — Outpatient at NRMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. G. Grumbach, J. Hayes Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend special­ity conferences for discussion of patients.

140.02. Off-Campus Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. G. Grumbach

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

140.03. Ambulatory Pediatrics at YMC. (8) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. B. Nilson

Working with a pediatric house staff and pediatric nurse practitioner team and under the supervision of the staff pediatrician, the clerk will have direct primary care and health supervision responsibilities for selected well and acutely ill children in a clinic setting.

140.04. Pediatric Cardiology. (1 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. A. Rudolph

Experience in cardiac evaluation and treatment in­cluding cardiac workup in the ward and clinic; cardiac catheterization, angiography, children's electro­cardiograms, surgical management, and postopera­tive care.

140.04A. Cardiology Private Practice. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pedi­atrics 110. R. Simon

Experience in clinical evaluation of children with cardiac abnormalities in a private office. Setting in­cludes history, physical examination, X-ray, electro­cardiogram and any other procedures necessary for diagnosis.

140.05. Pediatric Private Practice. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. Open to UCSF students only.

140.06. Adolescent Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. J. Gareis

Clinical clerkship in adolescent medicine with em­phasis on outpatient clinical experience in a wide­range of health problems of the adolescent.


Combined experience in pediatrics and internal medicine with exposure to management of usual and unusual infections occurring in a high-risk rural population. Daily conferences and rounds are held with hospital-based infectious disease consultants. Work in the clinical microbiology laboratory may also be arranged.

140.08. Ambulatory Pediatric Clerkship at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. R. Ballard, D. Bergman

Students participate as members of physician teams in the MZ Medical School pediatric outpatient practice with Children and Youth Project. Night call includes pediatric E.R. and inpatient experience. Students will follow patients from their team on the inpatient service.

Supervised participation in clinical activities, both inpatient and outpatient, and all regularly scheduled conferences of the Child Neurology Division. Study of the developing nervous system and diseases of the nervous system affecting children, and adolescent medicine.

140.10. Pediatric Hematology and Oncology. (1½ per week) Tu, Th, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. Open to UCSC students only.

140.11. Pediatric Cardiology at CHMC. (1½ per week) M, W, F, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Higashino


Zoger, M. Abbott

Advanced clerkship on the general medical-surgical inpatient unit. Family-centered care is emphasized through the Care With Parent Program. Night call includes pediatric E.R. experience.


Olney


Ablin, Kushner, Zoger

Participation in the direction of the instructor in the Dairy Camp, Clinical, and management aspects of diabetes. Students have an opportunity to participate in the management of pediatric cancer patients and treatment of many aspects of diabetes in children, adolescents, and young adults.

140.15. Pediatric Nephrology. (1½ per week) Tu, W, F, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

C. Epstein, B. Hall

Experience in the management of children and adults with renal disease, including genitourinary, and specific emphasis on the kidney. Students participate in ward rounds, outpatient clinic, and teaching conferences. Cases include: congenital anomalies, polycystic kidney disease, glomerulonephritis, nephrotic syndrome, and lupus nephritis.


Holliday, Piett, Potter

Introduction to general nephrology. Clinical experience in pediatric nephrology with children having nutritional problems, ESRD and chronic renal failure. Pre-existing renal failure consultation; new cases from the nursery, and cases requiring TPN. Resident projects may be arranged with instructors.


Prerequisites: Medicine 110 and Pediatrics 110. Consent of instructor.

C. Epstein, B. Hall

Clinical experience in the management of children and adults with hereditary (including cytogenetic) diseases, with particular emphasis on genetic counseling, patterns of human malformation, and the biochemical and genetic mechanisms involved in the pathogenesis and transmission of these conditions.


Giammona

Students participate in patient care in close association with housestaff. Students are responsible for the care of both in wards caring for sick children and in Newborn Intensive Care Unit, and in rounds and conferences conducted by senior staff.


Giammona

Students participate in the comprehensive care of children. Experience with various illnesses is provided in appropriate specialty clinics. A wide variety of child care problems is seen during visits to offices of senior pediatricians participating in the program.


Brady

Diagnosis and treatment of asthma, allergic rhinitis, and hay fever. Attendance at Pediatric Allergy Clinic daily. Participation in activities of allergy trainees.


Cohn

Clinical experience in a busy community hospital Ambulatory Pediatric Clinic to prepare the student for daily patient encounters and responsibilities of pediatric or family practitioners. Teaching of patients and parents and follow-up of well and ill general pediatrics, preventive medicine, and pediatric subspecialties.


Students participate in the care of infants in the intensive care nursery in close association with the house staff. Training is provided in board, ward rounds and outpatient clinic.


R. Ballard

Experience in normal newborn and intensive care nurseries, according to student's interests and skills.


Grumbach

Participation in human cytotgenetic studies in children. Emphasis is on laboratory work with exposure to clinical problems and patients.


Grumbach

Student research projects under guidance of faculty members, approved by instructors. Students may initiate or continue research programs under supervision of faculty members.


Students present case presentations weekly from patients on the pediatrics wards. Course correlates patients' problems with the required curriculum. Experience on the ward in the clinical setting.

160.05. Supervised Study in Pediatrics. (1½ per week) W, Th, F, Sp. Prerequisite: Consent of instructor.

Grumbach and 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 Pediatrics. (1½ per week) Tu, W, F, Sp. Prerequisite: Consent of instructor.

Grumbach and Staff

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

400. Pediatric Staff Conference. (1½ per week) Tu, W, F, Sp, Interns and residents. UC Grumbach

Conferences include house staff presentation and presentation of patient case histories with reference to the literature, laboratory work and special studies. Faculty members and consultants from other departments as well as other universities discuss recent developments in their respective fields.

401. Pediatric-Roentgenology Conferences. (1½ per week) Tu, W, F, sp. Interns and residents.

UC Grumbach

Conferences include review and discussion of recent X-ray studies of pediatric cases in the wards and outpatient service.

402. Pediatric Clinical Seminar. (1½ per week) Tu, W, F, sp. UC Grumbach

Seminar includes review and discussion of selected cases of unusual interest, reports on special topics with review of recent literature, and clinicopathological conference on pediatric cases.


Grumbach

Residents, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis, and treatment.


UC Grumbach

Residents rotate through newborn nursery, pediatric wards and clinics, pediatric emergency room. They are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examination, laboratory tests, and consultation.


UC Grumbach, Dower

Interns rotate through newborn nursery, pediatric wards and clinics, pediatric emergency room. They are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examination, laboratory tests, and consultation.


UC Grumbach, Dower

Interns rotate through newborn nursery, pediatric wards and clinics, pediatric emergency room. They are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examination, laboratory tests, and consultation.

Pedodontics


Clinical diagnosis, plan of treatment, dietary analysis and counseling, fabrication of appliances for and treatment of children requiring tooth guidance, space management, and preventive orthodontics. Units assigned upon completion of clinical requirements.

Clinical experience in treating chronically ill patients. Seminar 60 hours. Sp. Prerequisite: Pedodontics 170.02A-B-C. Clinic Variable.

Management of rampant caries and techniques of interceptive orthodontic appliances currently being employed in pedodontics. Seminars 5-10 hours. Sp. Prerequisite: Pedodontics 171.01 A-B-C. Seminar 60 hours. M. Morris and Staff.

An elective clinic course in pedodontics. Students provide care for children at selected migrant farm labor camps. Course includes preventive education, comprehensive intermediate procedures including pulp therapy and necessary minor dental surgery, taking and processing needed radiographs.

**Periodontology**


Introduction to the recognition and diagnosis of inflammatory periodontal disease. Pathogenesis of periodontal disease is discussed from clinical, histopathological, and biochemical points of view.


Introduction to the techniques of supragingival scaling and root planing.

121. Periodontal Therapy (Introduction). (1) F. Prerequisite: Periodontology 110. Lecture 1 hour. Armitage and Staff.

Introduction to the rationale and objectives of periodontal therapeutic procedures. Also considered are the recognition and treatment of periodontal disease in children, acute periodontal emergencies, and periodontal considerations in restorative dentistry.


Students are assigned to an interdisciplinary health care team and are responsible for delivery of patient care. Treatment planning, prevention instruction, and patient management and pain alleviation is emphasized.


Lecture course presenting dental procedures unique to, or modified to meet, the needs of the child. Examination, diagnosis, treatment planning, pain control and management, restorative procedures, preventive orthodontics, diet analysis, and caries control are stressed.

170A-B-C-D. Clinical Pedodontics. (3, 4, 3, 4) F, W, Sp. Prerequisite: Pedodontics 170A-B-C-D. Clinic 9-12 hours. M. Morris and Staff.


170A-B-C-D. Clinical Pedodontics. (2, 3, 2, 3) F, W, Sp. Prerequisite: Pedodontics 170A-B-C-D. Clinic 3-6 hours. M. Morris and Staff.

Continuation of Pedodontics 170A-B-C-D. M. Morris.

171A-B-C-D. Pediatric Pedodontics. (1.5, 1.5, 1.5) F, W, Sp. Prerequisite: Pedodontics 170A-B-C-D. Clinic 4.5 hours. M. Morris.

Assigned reading of current and classical literature in pedodontics and allied specialty areas with review and discussion of each reading assignment to prepare students for 60 hour literature examination.

171A-B-C-D. Pediatric Pedodontics. (2, 3, 2, 3) F, W, Sp. Prerequisite: Pedodontics 170A-B-C-D. Clinic 6 hours. M. Morris and Staff.

Continuation of Pedodontics 171A-B-C-D. M. Morris.

172A-B-C. Clinic and Seminar. (2-2) F, W, Sp. Clinic and Seminar 60 hours. M. Morris and Staff.


173. Clinical Pedodontics. (0-6) SS. Prerequisite: Pedodontics 170.02A-B-C. Clinic Variable. M. Morris and Staff.

Students provide dental care for non-English speaking migrant population, utilizing facilities of the mobile clinic.

174. Pedodontic Seminar. (2) SS. Prerequisite: Pedodontics 171.01A-B-C. Seminar 4 hours. M. Morris and Staff.

Course provides additional clinical experience in pedodontics.

175. Pediatric Oral Surgery. (3) F. SFGH 90 hours. Hospital procedures, management of trauma and emergencies involving the primary and young succedaneous teeth. Extractions, reimplantation, pulp protection, stabilization of luxated teeth, management of infection, and supportive therapy are emphasized.

176. Pediatric General Anesthesia. (0-3) F. CHMC: 90 hours. K. Schroeder and Staff.

An introductory course in general anesthesia to familiarize the student with general anesthesia, the attendant problems and risks, the agents used, and methods of delivery. Clinical experience under close supervision.


Students are assigned to an interdisciplinary health care team and are responsible for delivery of patient care. Treatment planning, prevention instruction, and patient management and pain alleviation is emphasized.

180A-B-C. Pediatric Seminar. (1-1) Sp. Prerequisite: Completion of third year pediatric lecture series and approval of the Dean. Lecture 1 hour. B. Smith.

Documented discussions on occlusion, mixed dentition analysis, malocclusions, missing incisors and premolars, traumatic injuries, and the manifestations of systemic disease. Designed for students considering pedodontics as a specialty. Counsel for students considering postdoctoral education in pedodontics.

185. Advanced Pedodontic Laboratory. (½) F, W, Sp. Prerequisite: Postdoctoral standing or approval of Dean and Staff. Laboratory 1 hour. J. Dienstein.

A laboratory course concerned with the fabrication of interceptive orthodontic appliances currently being employed in pedodontics.

186. Clinical Practice in Pedodontics. (2-2) F. Prerequisite: Postgraduate standing or approval of Dean and Staff. Clinic 4 hours. J. Dienstein.

A laboratory course concerned with the fabrication of interceptive orthodontic appliances currently being employed in pedodontics.

187. Laboratory Practice in Pedodontics. (0-3) F, W. Prerequisite: Clinical Practice in Pedodontics. Laboratory 1 hour. J. Dienstein.

A laboratory course concerned with the fabrication of interceptive orthodontic appliances currently being employed in pedodontics.

188. Community Pedodontics. (0-4) F, W, Sp. Prerequisite: Completion of requirements for graduation or approval of Clinic Review Committee. Clinic 0-120 hours. M. Morris, Stark and Staff.

A program to provide care for children at selected migrant farm labor camps. Course includes preventive education, comprehensive intermediate procedures including pulp therapy and necessary minor dental surgery, taking and processing needed radiographs.

189.01. Periodontology. (1) F. Prerequisite: Periodontology 110. Clinic 1 hour. Armitage and Staff.

An introductory course in periodontics. Students provide care for children at selected migrant farm labor camps. Course includes preventive education, comprehensive intermediate procedures including pulp therapy and necessary minor dental surgery, taking and processing needed radiographs.
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.

175. 01A-B-C. Advanced Treatment Planning and Surgery Seminar. (1-1-1) F, W, Sp. Seminar 1 hour.
Shibata and Staff

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They are responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience.

176. Original Investigation in the Field of Periodontology. (2) F, W, Sp. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. Lab 3-15 hours.
J. Greenspan

Research.

W. H. Noble

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.

W. H. Noble

Course provides a broad concept of the principles of occlusion, upon which effective therapeutic procedures can be based.

179A. Applied Biochemistry. (2) F. Lecture 2 hours.
W. D. Price

Course covers physiology as it relates to anesthetics and periodontal surgery.

180. Periodontics. (1) W. Lecture 1 hour.
Koffler

Principles and skills of periodontal care in the private practice environment.

180. 02A-B. Advanced Periodontics. (1-1-1) F. W. Prerequisite: Periodontics 131 and consent of instructor. Seminar 1 hour.
Koffler (F), Kepec (W)

Study in depth, with literature review and seminar discussions of areas of periodontal care having major clinical significance.

180. 03. Periodontal Surgical Techniques. (1) F. Prerequisite: Periodontics 131. Lecture 1 hour.
Shibata and Staff

Seminar designed to correlate basic sciences with problems in periodontology and evaluate concepts in the direction of research, clinical applications, and teaching. Selected papers in the literature are reviewed and evaluated. Other instructors are invited to participate.

Pharmacological Chemistry

120. Principles of Pharmacological Chemistry. (3) F. Prerequisite: Chemistry 113. Lecture 3 hours.
Rau

S. A study of the physicochemical and biological factors which contribute to drug action; in vivo and in vitro biotransformations of drugs and related organic compounds.

121. Principles of Pharmacological Chemistry. (2) W. Prerequisite: Pharmacology 120 and current enrollment in Pharmacology 121. Lecture 2 hours.
Jorgensen, M. Wolff

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 Pharmacological Chemistry. (3) Sp. Prerequisite: Pharmacology 120. Lecture 3 hours.
Brochmann-Hanssen

A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on drugs affecting the autonomic nervous and cardiovascular systems as well as renal function.

132. Principles of Pharmacological Chemistry. (3) F. Prerequisite: Pharmacology 120. Lecture 3 hours.
Brochmann-Hanssen, R. B. Meyer

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.

134. Principles of Pharmaceutical Chemistry. (2) W. Prerequisite: Pharmaceutical Chemistry 120 and current enrollment in Pharmacology 113. Lecture 2 hours.
R. B. Meyer

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 113 and 115. Lecture 2 hours.
Peng

Principles of pharmaceutical analysis used for evaluation of active ingredients and dosage forms, with special emphasis on modern separation techniques and instrumental methods of analysis.

152. Radioclinics in Biology, Medicine and Pharmacy. (2) F. Lecture 2 hours.
Peng, D. Price

Discussion on radionuclides in frequent use in biology and medicine including those used as pharmaceuticals, with emphasis on dosage form design, quality control, clinical application and other related aspects.

154. Pharmaceutical Quality Control. (2) W. Prerequisite: Pharmacy 165, Pharmacy 166 or concurrent enrollment. Lecture 2 hours.
Brochmann-Hanssen

General principles of total quality control applied to the manufacture of pharmaceuticals, introduction to statistical quality control, its application to process studies, dosage forms, conformation of simplified quality control systems for small-scale manufacturing and hospital pharmacies.

156. Pharmaceutical Analysis. (2) W. Prerequisite: Pharmaceutical Chemistry 151. Lab 2 hours.
Peng

Experiments in pharmaceutical analysis applied to drug entities, dosage forms, and samples of biological origin.

Sadée

Analytical theory and techniques for determining physical and chemical properties of organic and inorganic substances.

158. Radiosotope Measurements. (1) W. Prerequisite: Pharmaceutical Chemistry 153 or consent of instructor. Lecture 3 hours.
Peng

Detection and measurement of radionuclides commonly used in biology and medicine.

160. Fundamentals in Radioactivity. (2) F. Lecture 2 hours.
Peng

This course will treat the principles of physical decay in radionuclides, characteristics of nuclear emissions, interactions with matter, and related aspects in radioactivity.

162. Radiosotope Imaging. (1) § W. Prerequisite: Pharmaceutical Chemistry 153 or consent of instructor. Lecture 1 hour.
Peng

This course will treat the theory and methodology in the application of radionuclides to organ imaging in nuclear medicine.

170. Group Studies Course. (1-4) W, Sp. Prerequisite: Consent of instructor. Staff

Group studies of selected topics in pharmaceutical chemistry.

Kollman

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

Kollman

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

200. Physical Chemical Properties and Biological Activity. (1) § W. Prerequisite: Consent of instructor. Lecture 1 hour.
Kollman

Lectures and conferences dealing with the relationship between physical properties and biological activity, with special emphasis on the usage of molecular orbital calculations in this connection.

201. Advanced Survey of Medicinal Chemistry. (2) F. Prerequisite: Consent of instructor. Lecture 2 hours.
Jorgensen

Basic principles of medicinal chemistry and a survey of the relationships between structure and biological action for major drug classes.

202. Macromolecular Structure. (2) W. Prerequisite: Consent of instructor. Lecture 2 hours.
Kuntz, Langridge

A review of protein and nucleic acid structures. Emphasis on the principles which govern secondary and tertiary structure, with an introduction to the current approaches to this problem for protein and transfer RNA.

203. Drug Metabolism. (1-2) § W. Prerequisite: Consent of instructor. Lecture 1-2 hours.
Castagnoli, Sadée

Study of the in vivo and in vitro biotransformation of foreign compounds with particular emphasis on drugs. When possible, detailed chemical and biochemical mechanisms considered.

204. Hormones. (3) § W. Prerequisite: Consent of instructor. Lecture 5 hours.
M. Wolff, Jorgensen

Lectures and conferences dealing with structure-function relationship and action of hormones at the molecular level. Special emphasis is given to steroids and peptide hormones.

205. Medicinal Organic Acid Constituents. (3) W or Sp. Prerequisite: Organic chemistry and biochemistry recommended. Lecture 3 hours.
R. B. Meyer

The chemistry and mechanism of action of purines, pyrimidines, their nucleotides and nucleic acids, and related derivatives which have anticancer and antimicrobial activity.

206. Modern Techniques in Pharmaceutical Chemistry. (2) W. Prerequisite: Chemistry 113 and 157 or equivalents. Chemistry 165 recommended. Lecture 2 hours.
J. Craig

Pharmaceutical Chemistry 139
207. Experimental Techniques in Modern Pharmaceutical Chemistry. (2) W. Prerequisite: Chemistry 113 and 157 or equivalents. Chemistry 165 recommended. Lab 6 hours. J. Craig

Laboratory work illustrating some of the modern techniques used in pharmaceutical chemistry, including chromatography, ion exchange, counter-current separation, and vacuum techniques.

208. Advanced Survey of Pharmaceutics. (2) F or W. Lecture 2 hours. Benet and Staff

Basic principles underlying the areas of pharmaceutics directed at the needs of graduate students with limited familiarity with pharmaceutical sciences.

211. Selected Topics in Pharmaceutical Chemistry. (2) Sp. Prerequisite: Pharmaceutical Chemistry 120.

Jorgensen

Reports and discussion of topics of current interest in pharmaceutical chemistry, with emphasis on relationships between chemical structure, physical properties, and biological response.

212. Fortran IV Programming and Scientific Software Usage. (3) F. Lecture 2 hours. Lab 3 hours. P. Pedersen

Elements of the Fortran IV language. Scientific problem-solving with a digital computer with emphasis on terminal usage. Demonstration of and exercises with various software packages of statistical and kinetic interest.

213. Basic Considerations in the Kinetics of Drug Absorption and Disposition. (3) F. Prerequisite: Chemistry 115. Calculus background is recommended. Lecture 2 hours, Lab 3 hours.

Troy, Ole, C. Hunt

A basic study of the concentration-time course of drugs and their metabolites, methods of pharmaco-kinetics, analog of drug dosage regimens. Laboratory emphasizes the application of electronic calculators and analog computers.

214. Advanced Aspects of the Kinetics of Drug Absorption and Disposition. (3) Sp. Prerequisite: Pharmaceutical Chemistry 213 and Biochemistry 202 or equivalents. Lecture 2 hours, Lab 3 hours. Riegelman, Benet and Staff

Advanced consideration of pharmacokinetics including metabolism, assessment of in vivo and in vitro pharmacokinetics, and correlation of pharmacological response with the concentration-time course of a drug. Laboratory will include analog and digital computational methods.

217. Physical Pharmacy of Solid Dosage Forms. (3) W. Prerequisite: Pharmaceutical Chemistry 160 or consent of instructor. Lecture 3 hours. Brochmann-Hanssen

Properties of solids, solid-solid interactions, solid dosage forms, and stability of solid dosage forms are discussed.


Solubility, solution, diffusion, properties of solids of solutions, and drug stability.


Selected topics on enzyme mechanisms. General survey of enzyme catalysis: general acid-base catalysis, protein conformational change. Covalent intermediates in enzyme catalysis. The role of cofactors in enzyme catalysis. Phosphate transfer reactions.

220. Graduate Seminar Program. (1) F, W, Sp. Staff

A program involving the presentation of core material in pharmaceutical chemistry in the medical chemistry and pharmacuetics pathways. The presentations are made by graduate students and examination is by a series of cumulative examinations.

221. Research Conference in Pharmaceutical Chemistry. (1) F, W, Sp. Prerequisite: Graduate standing in the Department of Pharmaceutical Chemistry. Lecture 1 hour.

M. Wolff

A series of weekly research conferences in medicinal chemistry given by visiting lecturers, faculty, and advanced graduate students.


Kuntz and Staff

Topics of current research interest in physical and biophysical chemistry.

230A. Spectroscopy. (4) Sp. Prerequisite: Chemistry 162 or equivalent. Lecture 3 hours, Lab 3 hours. Offered in alternate years. Offered 1978-79.

Kuntz, Kollman

The theory and application of molecular electronic and vibrational spectroscopy; optical rotatory dispersion and circular dichroism.

230B. Spectroscopy. (3) Sp. Prerequisite: Chemistry 162 recommended. Lecture 3 hours. T. James

Theory and application of nuclear magnetic resonance and electron-spin resonance; mass spectrometry.

230C. Spectroscopy. (1) W. Lab 3 hours. T. James

Laboratory work in nuclear magnetic resonance and electron-spin resonance; mass spectrometry.

231. Spectroscopy in Teaching. (3) F. W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Santi

Selected topics in spectroscopy and related areas. Content of the course changes, as in the case of seminars. Course may be repeated for credit.

240. Radiochemical Synthesis. (1-2) F, W. Prerequisite: Consent of instructor. Lab 3 hours. Peng

Theory and techniques related to the synthesis of isotopically labeled organic compounds. Course may be repeated for credit.

241. Radiochemical Analysis. (1) W. Prerequisite: Consent of instructor. Lab 3 hours. Peng

Experimental techniques related to various aspects of radioassay of biological samples, biological 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 instructor. Lecture 1 hour. Peng, Benet, Licko

Discussion on the theory and principles in the use of radiodnes as tracers in biological systems. Emphasis on the design of experiments and data evaluation. Transfer reaction methodology.

243. Chemical and Biological Effects of Ionizing Radiation. (1) F. Prerequisite: Pharmaceutical Chemistry 152 or 160, or consent of instructor. Lecture 1 hour.

Peng, J. W, Harris, Painter

Effects of ionizing radiation on chemical and biological systems will be discussed.


Boden, Computer Graphics. (3) F. Prerequisite: Programming experience and consent of instructor. Staff

Langerde

Application of interactive three-dimensional computer graphics to modeling complex biological systems, particularly large molecules and their interactions. Elements of hardware and a detailed discussion of software. Demonstration and self-scheduled projects using the Computer Graphics Laboratory.

266. Conferences in Research Planning. (1) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Staff

Discussion and practice in research problem formulation and design selection. Core classes and small group sessions are organized around students’ interests by faculty within the area of specialization.

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

Staff

For graduate students engaged in writing the thesis for the master’s degree.

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

Staff

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

300. Practicum in Teaching. (1) F, W, Sp. Prerequisite: Graduate standing in the Department of Pharmaceutical Chemistry and participation in the on-going teaching program.

Conferences and discussion dealing with the teaching of courses in the School of Pharmacy under the direction of the faculty.

Pharmacognosy


Brochmann-Hanssen

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.

Pharmacology

100A-B. Medical Pharmacology. (3-5) F, W. Prerequisite: Biochemistry 120A and Biology 120 and 125 or equivalents. Lecture 3 hours W, 5 hours Sp.

Trevor

A systematic presentation of pharmacological 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. (3) W. Prerequisite: Concurrent enrollment in Pharmaceutical Chemistry 212. Lecture 1 hour. Barbakur

Systematic survey of action and uses of drugs with emphasis on steroids, hormones, and drugs for metabolic disorders.

125. Pharmacology and Toxicology. (4) Sp. Prerequisite: Biochemistry 120A and Physiology 120 and 125. Lecture 3 hours. Lab 3 hours.

126. Dental Pharmacology. (2-4) W. Prerequisite: Physiology 110. Lecture 2 hours W, 3 hours Sp. Lab 3 hours Sp. F. Meyers and Staff

Objective of the course is to acquaint dental and dental hygiene students with the fundamentals of pharmacology. Various classes of drugs are examined in regard to actions, absorption, biotransformation, and toxicity. Agents useful in dentistry are emphasized.

130. Toxicology. (2) W. Prerequisite: Pharmacology 125 and 136. Lecture 2 hours.

Hine, Hodges, Meyers, Piper, Vore

The occurrence, mode of action, recognition, and treatment of poisoning by environmental chemicals and therapeutic agents.

141. Pharmacology and Toxicology. (1) W. Prerequisite: Concurrent enrollment in Pharmaceutical Chemistry 134. Lecture 1 hour. Trevor, Apple

Systematic survey of action and uses of anti-infective and antineoplastic drugs.

136. Pharmacology and Toxicology. (4) F. Prerequisite: Pharmacology 125. Lecture 3 hours, Lab 3 hours.

Trevor, Barbakur and Staff

Systematic survey of action and uses of drugs acting on autonomic nervous and cardiovascular systems and the kidneys.

1266-C. Dental Pharmacology. (2-4) W. Prerequisite: Physiology 110. Lecture 2 hours W, 3 hours Sp. Lab 3 hours Sp. F. Meyers and Staff

Objective of the course is to acquaint dental and dental hygiene students with the fundamentals of pharmacology. Various classes of drugs are examined in regard to actions, absorption, biotransformation, and toxicity. Agents useful in dentistry are emphasized.

130. Toxicology. (2) W. Prerequisite: Pharmacology 125 and 136. Lecture 2 hours.

Hine, Hodges, Meyers, Piper, Vore

The occurrence, mode of action, recognition, and treatment of poisoning by environmental chemicals and therapeutic agents.

141. Pharmacology and Toxicology. (1) W. Prerequisite: Concurrent enrollment in Pharmaceutical Chemistry 134. Lecture 1 hour. Trevor, Apple

Systematic survey of action and uses of anti-infective and antineoplastic drugs.

136. Pharmacology and Toxicology. (4) F. Prerequisite: Pharmacology 125. Lecture 3 hours, Lab 3 hours.

Trevor, Barbakur and Staff

Systematic survey of action and uses of drugs acting on the central nervous system.

150.1. Pharmacy Research. (1-½ per week) Su, F.

Pharmaceutical Chemistry / Pharmacognosy / Pharmacology
Advanced biochemical experimentation and theories concerning the mechanism of action of biologically active substances on a macromolecular level. The studies of selected theorems present a comprehensive, beyond certain theoretical material, varies with each participant and consists of guided experiments in selected subjects.


Introductory toxicology divided into the following three components: toxicity testing procedures; environmental toxicology, subcellular topics; and clinical toxicology, current developments.

211A-B.C. Advanced Toxicology.  (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Hine, Hodg, F. Meyers, Piper, Vore-Lwamoto

A detailed examination of the field of toxicology as it relates to agricultural, environmental, forensic, industrial, military, regulatory and therapeutic problems. Emphasis is placed on mechanism of action of toxic substances. Current advances and classical concepts of toxicology are presented.

220. Seminar. (0-1-1) § F, W, Sp. Staff

Seminars to discuss present methods and problems in current teaching and research in pharmacology and toxicology.


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 Pharmacology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Hine, Hodg, F. Meyers, Piper, Vore-Lwamoto

191. Group Studies Course. Lecture and Lab to be arranged

193. Special Topics in Pharmacology and Toxicology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Hine, Hodg, F. Meyers, Piper, Vore-Lwamoto


196. Supervised Study in Pharmacology and Toxicology. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 0-1 hours, Lab 1 hour. Hine, Hodg, F. Meyers, Piper, Vore-Lwamoto

197. Seminar in Pharmacology and Toxicology.  (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. Staff

A seminar course covering various aspects of pharmacology and toxicology.

199. Laboratory Project in Pharmacology and Toxicology.  (3) § F, W, or Sp. Prerequisite: Survey course in pharmacology or consent of instructor. Lab 0-6 hours.


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 Pharmacology. (1-5) § F, W, or Sp. Staff

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

206A-B.C. General Pharmacology.  (3-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Staff

Lecture-conference dealing with fundamental aspects of interactions between chemical compounds and the components of biological systems. Mechanisms of drug action at molecular, biochemical, membrane, tissue, and organ levels of the cardiovascular, muscular, and central nervous systems are considered.

208. Biochemistry of Oxidative Drug Metabolism.  (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Th. Vireta-Bowman, Oritz de Montellano, Correa

The biochemical, regulatory and chemical aspects of mixed-function oxygenases with particular emphasis on monooxygenases.

209. Molecular Mechanisms of Action of Biologically Active Substances.  (3) § F, W, or Sp. Prerequisite: Consent of instructor. Advance biochemical experimentation and theories concerning the mechanism of action of biologically active substances on a macromolecular level. The studies of selected theorems present a comprehensive account, beyond certain theoretical material, varies with each participant and consists of guided experiments in selected subjects.

111. Non-Prescription Products. (1) F. Conference 3 hours. H. Spencer

Evaluation and comparison of non-prescription medications and appliances. Discussion and laboratory exercises on the formulation of products for external use, including cosmetics. The student will be taught with the properties and ingredients of such products.

113. Non-Prescription Products. (1) Sp. Prerequisite: Conference 112, 3 hours. H. Spencer and Staff

Continuation of Conference 112.

115. Biopharmaceutics and Physical Pharmacy. (4) Sp. Prerequisite: Conference 113 and Chemistry 116, 3 hours, Lab 3 hours. H. Spencer

A study of the physical, chemical and biological factors which interest and dominate the design of dosage forms as drug delivery systems. Course includes laboratory preparation of basic drug delivery systems.

116. Biopharmaceutics and Physical Pharmacy. (4) Sp. Prerequisite: Conference 115 and Chemistry 116, 3 hours, Lab 3 hours, H. Spencer

Continuation of Conference 115.

127. Prescription Study and Practice. (4) F. Prerequisite: Conference Administration 112. Lecture 2 hours, Lab 6 hours. H. Spencer

Application of philosophical, ethical, and legal principles to the practice of the profession of pharmacy. Due consideration is given to the dispensing of prescriptions.

128. Pharmacokinetics. (3) W. Prerequisite: Pharmacy 116. Lecture 3 hours, Conference 1-2 hours. O. Tozer

Course covers the pharmacokinetic basis of variability in the therapeutic, pharmacologic and toxicologic effects of drugs.

129. Pharmacokinetics. (3) W. Prerequisite: Pharmacy 118. Lecture 3 hours, Conference 1-2 hours. O. Tozer, H. Spencer

Continuation of Conference 128.

133. Biologic Products. (3) Sp. Prerequisite: Third year standing. Lecture 3 hours. Staff

A study of food and nutrition for all age groups. Diet therapy is discussed.

151. Community Health Education. (2) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. K. H. Lee

A study of community and environmental health education programs. Tozer, Riegelman

Discussion and review of the literature on the clinical application of pharmacokinetic principles in drug therapy.

170. Group Studies Course. (1-4) F, W, Sp. Prerequisite: Consent of instructor. Staff

A group studies course emphasizing patient interviewing. Small group techniques are used to develop and test communication skills. Observation of
numerous patient communication and social problems with opportunities to video tape student interactions and interviewing responses.

170.02. Special Topics in Pharmacoeconomics. (2) Sp. Prerequisite: Pharmacy 116 or concurrent enrollment. Lecture 2 hours.

An intermediate course offering an opportunity to explore, in greater depth, special drug delivery systems and some fundamental relationships involved in their design or action.

180. Drugs and Society. (3) W. Prerequisite: Basic Pharmacology.

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. Staff

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 Pharmacy. (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 department.

475. Parenteral Products. (3) W. Prerequisite: Third year standing. Lecture 2 hours, Lab 3 hours.

Introduction to the formulation and technology with parenteral preparations. Laboratory includes participation in hospital activities in which parenterals are made and administered.

Pharmacy Administration

111. Pharmacy Laws. (2) F. Lecture 2 hours.

J. R. Nielsen

Introduction to court systems and administration boards and their relationship to the health professions. Discussion of basic principles of criminal law, negligence, and business law with particular emphasis on the legal responsibilities and role of the pharmacist.

112. Pharmacy Laws. (2) W. Lecture 2 hours.

J. R. Nielsen

A detailed examination of Federal and State drug, cosmetic, and narcotic laws; their promulgation, enforcement, and effect upon the practice of pharmacy. Course involves an administrative work period.

150. Marketing. (4) W. Lecture 4 hours.

J. R. Nielsen

An analysis of the marketing functions that facilitate drug delivery, the role of pharmacists in reducing production to consumption, and of the decision-making processes of marketing institutions. Emphasis is given to the environmental factors affecting marketing decisions.


Principles of management, specially directed toward development of fundamentals peculiar to community pharmacy operation. Emphasis is given 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 application with some emphasis on the accounting requirements of the community pharmacy. Problem cases and demonstrations are presented.


J. R. Nielsen

A survey of laws relating to landlord-tenant dissolution, property division, support payments, probate and decedent's estates, with particular emphasis on how the pharmacist may expect his practice to be affected by these laws, and some practical preventive legal techniques.


180A-B. Legal Problems Related to Health Care. (2-2-2) F, W. Prerequisites: Third year standing. Pharmacy Administration 180A is prerequisite to 180B and 180B to 180C; but completion of entire sequence is not required.

J. R. Nielsen

Conducted in cooperation with law students who are teamed with students from professional schools on the campus to investigate assigned problems of their respective disciplines, with particular emphasis upon the legal implications arising therefrom.

186. Supervised Study in Pharmacy Administration. (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.

Physical Therapy

100A. Anatomy. (4) F. Prerequisite: Anatomy 102 or equivalent. Lecture 2 hours, Lab 6 hours. Nordschow

Course is designed to present the foundation of the structure and function of the human body, with emphasis in lecture and laboratory on topographical, skeletal, vascular, and neuromuscular aspects. Dissection of the upper limb, neck, and trunk are emphasized.

100B. Anatomy. (2) W. Prerequisite: Physical Therapy 100A. Lecture 1 hour, Lab 3 hours. Nordschow

Course is designed to present the foundation of the structure and function of the human body, with emphasis in lecture and laboratory on topographical, skeletal, vascular, and neuromuscular aspects. Review plus dissection of the lower limb is stressed.

101A. Pathology. (3) F. Lecture 3 hours. Biava

An introduction to the fundamentals of pathophysiology with special emphasis on the correlation between pathological processes and the clinical signs, symptoms, and course of diseases. Gross pathology is demonstrated and autopsy material is available.

102A. Physiology. (3) F. Prerequisite: General human physiology or equivalent. Lecture 3 hours. Thrasher

A review of concepts and aspects of human physiology, with special emphasis on the cardiovascular system and metabolism. Specific aspects of pathological physiology are considered, especially in relation to stroke and heart disease. Applications of physical principles to physiology are discussed.

103A. Neuroanatomy. (2) F. Lecture 1 hour, Lab 3 hours.

The development of the human nervous system with special reference to structure and functional relationships.

104A. Physical Therapy Procedures I. (6) F. Prerequisite: Introductory physics. Lecture 3 hours, Lab 9 hours. Puglisi

Lectures and laboratory practice in electrotherapy, kinesiology, and tests and measurement. Emphasized are therapeutic uses of electricity in certain pathological conditions of musculoskeletal function in normal and abnormal states, methods of performing, recording and interpreting testing and measuring procedures.

104B. Physical Therapy Procedures II. (6) W. Prerequisite: Physical Therapy 104A. Lecture 3 hours, Lab 9 hours. Puglisi

Lectures, demonstrations, and laboratory practice in hydrotherapy, massage, and therapeutic exercise. Emphasized are therapeutic uses of water and massage techniques applied to pathological problems and techniques of administration of exercises commonly used in orthopedic, medical, and neurological conditions.

104C. Physical Therapy Procedures III. (6) Sp. Prerequisite: Physical Therapy 104A and 104B. Lecture 3 hours, Lab 9 hours. Puglisi

Lectures and laboratory practice in therapeutic exercise. Emphasized are methods of evaluating the patient and planning his program, use and care of apparatus in rehabilitation of the handicapped, use and evaluation of changing concepts, and special techniques of exercise.

105B. Physical Medicine and Rehabilitation. (3) W. Lecture 3 hours.

Ranallo

Lectures and clinical demonstrations concerning peripheral vascular problems, genitourinary patients, and musculoskeletal system. Special emphasis is given to the peripheral nervous system, muscular and skeletal system. Clinical clerkship lectures are also included.

106B. Clinical Medicine I. (5) W. Lecture 5 hours.

F. Schiller, J. Schneider

Lectures and clinical presentations of medical and neurological patients are designed to facilitate student's understanding of the basic interrelationships of structure and function of the various body systems. Conditions requiring physical therapy treatments are fully discussed.

106C. Clinical Medicine II. (5) Sp. Prerequisite: Abnormal psychology or equivalent. Lecture 5 hours.

O. Strange

Lectures in orthopaedic surgery, pediatrics, psychology, surgery, obstetrics, gynecology, pediatrics, and dermatology are presented by physicians in these specialties.

107B. Neuromuscular Physiology. (2) W. Lecture 2 hours.

Garoutte

A study of the physiology of striated muscle and peripheral nerve in relationship to controlling mechanisms within the central nervous system. Special emphasis is given to the physiological disturbances which occur in various types of human motor disabilities.

108C. Basic Medical Procedures. (2) Sp. Lecture 1 hour, Lab 3 hours.

Nordschow

The study of procedures necessary for the total care of patients.


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 Staff.

170.02. Survey of Congenital Defects. (2) W. Prerequisite: Gross anatomy course and consent of 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.

410D. Clinical Clerkship. (14) Su. Prerequisite: Completion of all physical therapy courses in curriculum sequence.

Clinical clerkships consisting 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 included.

Physiology

100. Organ System Physiology. (6) W. Prerequisite: Anatomy 100 and 102, and concurrent enrollment in Biochemistry 100A-6. Consent of instructor. Lecture 4 hours, Conference 2 hours, Lab 4 hours.

Ramsay

Physical Therapy / Physiology 145
Normal function of the cardiovascular, respiratory, renal, and gastrointestinal systems and the metabolic processes they serve as a whole are studied in biology. Special emphasis will be placed on the structure and function of the endocrine glands and selected aspects of endocrine pharmacology and pathology are studied in lectures, demonstrations, and laboratory exercises.

110. Integrative and Nutritive Systems. (6) § W. Prerequisite: College level biology, physics, and chemistry, or consent of instructor. Lecture 5 hours. Conference 3 hours. Rothman and Staff

Introduction to organ systems with emphasis on nervous, endocrine, circulatory, respiratory, and alimentary function in vertebrates. Emphasis is then placed on the interdependence of organ systems for the success of multicellular forms. Fundamental cellular processes are also discussed, emphasizing differentiated function.

120. Mammalian Physiology. (3) § W. Prerequisite: Physiology 125 required for students in School of Pharmacy; may be taken separately by graduate students with consent of instructor only. Lecture 3 hours.

S. Sampson

Study of the integrative systems of the mammalian organism, particularly the nervous and endocrine systems.

125. Mammalian Physiology. (7) § F. Prerequisite: Consent of instructor. Lecture 5 hours, Conference 2 hours. Labs 3 hours.

Mines

Introduction to mechanisms by which mammals, especially man, function. The construction of internal and external systems and their relationship to the functions of cells and muscles, circulatory, respiratory, gastrointestinal, and excretory systems. Lecture (2) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture and Lab to be arranged.

S. Sampson

Understanding the nervous system, respiratory physiology, neurophysiology, cardiovascular physiology, cell physiology, or other areas offered by individual staff.


Discussion of current literature pertaining to the mechanisms of hormone synthesis, packaging, and release.

200. Tutorial in Physiology. (0) § F, W, Sp. Prerequisite: Consent of instructor. Ganong and Staff

Directed reading and short laboratory exercises to refresh aspects of physiology under supervision of a member of the faculty.

201. Physiology of Vision. (2) § Sp. Prerequisite: Physiology 110 or equivalent, or consent of instructor. K. Brown

Study of mechanisms underlying vision. Consideration is given to anatomy and physiology of the visual system, but the emphasis is on neurophysiology, with coverage of the visual system from the photoreceptors to the visual cortex.

202. Seminar: Topics in Physiology. (1) § F. Prerequisite: A minimum of six units of introductory physiology. Seminar 1 hour.

This seminar discusses selected topics in cellular and integrative physiology. Readings are drawn from primary and secondary sources.

205. Functional Neuroanatomy Projects. (4) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours, Lab 4 hours. Enrollment limited.

Each year a different neuroanatomical project is undertaken in order for students to learn a variety of techniques used in electron microscopy, including freeze-fracture. Students will be able to prepare a three-hour seminar on a basic aspect of electron microscopic neuroanatomy.

206. Advanced Endocrinology and Electrolyte Physiology. (3) § F, W. Prerequisite: Physiology 100 or 125. Consent of instructor. Lecture 3 hours.

C. Berry

Current theories regarding renal hemodynamics and the transport mechanisms operating across renal tubular membranes are discussed, with emphasis on their role in the maintenance of whole body, acid-base, electrolyte, and fluid balance.

207. Neuroendocrinology. (1-3) § Sp. Prerequisite: Endocrinology and neurosciences or consent of instructor. Lecture 13 hours.

M. Dallman

Mechanisms for regulation of endocrine function by the central nervous system, the influence of hormones on the nervous system is considered in view of anatomical, biochemical, physiological and behavioral data in the literature. Course may be repeated for credit.

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

Ganong and Staff

For graduate students engaged in writing the thesis for the master's degree.

209. Directed Research. (0) § F, W, Sp. Prerequisite: Advance to candidacy and permission of the graduate adviser.

Ganong and Staff

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

300. Practicum in Teaching Physiology. (0) § F, W, Sp. Prerequisite: Previous training in physiology and consent of instructor. Lecture and Lab variable.

Ganong and Staff

Practice in teaching physiology under faculty supervision. Students will attend laboratory work, conduct conferences, deliver lectures, and assist in preparing and grading examinations. Graduates are also responsible for their role as a teaching assistant.

301. Scientific Writing. (0) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.

Ganong and Staff

Improves students' ability to prepare pre- and postdoctoral fellow how to best put into words, tables and figures work done in the laboratory, and how to do so in a concise, precise, and logical form.

302. Group Practice in the Art of Lecturing. (0) § F. Prerequisite: Consent of instructor. Lecture 1½ hours. Enrollment limited.

Stack, Baumbach

A course in teaching techniques. Students prepare short lectures, and video tapes of these presentations are analyzed by self and group-criticism.

Preventive Dentistry and Community Health

109.01. Community Health Problems and Practice. (0) § F, W, Sp. Clinic-Seminar rotation 30 hours.

J. Fine

Students work in community clinics which serve deprived areas. Both seminars and supervised clinical experience will be designed to provide students with the opportunity to relate economic, social, and cultural theory to the problems they will be treating.

111. Changing Aspects of Dental Practice. (1) § F. Lecture 1 hour.

Wycolf

A summer 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 Sciences. (1) W. Lecture 1 hour.

S. Gold

An introduction to the basic concepts, theories and advanced concepts of the social sciences. Emphasis is on the application of these concepts and modes of reasoning to pressing social problems and the delivery of health services.

121. Research Design. (1) F. Lecture 1 hour.

Wycolf

Course presents basic principles of biostatistics. Introduces the concept of experimental reliability, statistical principles, techniques of data selection, and trends in data, and variability. The student plans, develops, and writes a research protocol.

122. Community Health Problems. (2) § F, W, Sp. Silverstein

Dental hygiene students work in the North Oakland community with the Children and Youth Project staff. Emphasis will be on the delivery of dental care to deprived areas where oral screening is done. Students also make home visits.

180.01. Practice Management of Doctor and Patient Relationships. (1) F. Seminar 1 hour.

S. Gold

Participatory seminars utilizing role playing, open discussions, and exercises to study interpersonal relationships in dentistry. Topics covered include active listening, effective ways of communicating, and creative conflict-solving.


Tairdi

Students work in the Guadalupe Health Center, providing dental care in a community setting of comprehensive health care.


Darke, Wycoff

S. Gold

Students work at the South of Market Health
Psychiatry

100A-B. The Behavioral Science Basis of Psychiatry and Medicine. (2-1) F, W. Lecture 1 hour. F. Lab 3 hours. F.
M. Horowitz, Mallinak (F), C. Brodsky, I. Feinberg (W)
Introduction to the basic science underpinnings of clinical psychiatry in the three main knowledge areas of biological science, psychological science, and social science; and clinical medicine with emphasis on the psychological and social aspects of health and disease.

110. Core Clerkship in Psychiatry. (1 1/2 per week) Su, F, W, Sp. Prerequisite: Psychiatry 130 and 131A-B and Medicine 131-A.B.
Four-week assignment to an outpatient or inpatient psychiatric service. Students, under supervision, are responsible for patient evaluation, participation in treatment planning and implementation, attend seminars related to clinical work, and make field visits to psychiatric facilities.

130. Basic Clerkship — Communication Skills. (2) W. Seminar 2 hours. H. Peterson, Richman
A course in students' examples of different interviewing techniques and history taking procedures as utilized with patients of different ages, illnesses, and backgrounds. Students interview patients directly, and engage in supervisory and self-evaluative sessions.

131A-B. Introduction to Clinical Psychiatry. (2-2) W. Lecture 1 hour. Seminar 2-3 hours.
Kaltraider, M. R. Harris
Introduction to psychiatry as a clinical discipline. Basic behavioral science data is presented. Focus is on interviewing techniques, normal psychological development, description and treatment of psychoactive drugs, and discussion of the interface between psychiatry and medicine. Videotaped lectures, patient interviews, and seminars.

135. Psychiatric Aspects of Medical Practice. (0) Su, F, W. Prerequisite: Satisfactory completion of first and second years in the School of Medicine as specified by the prerequisites for the 110 clerkship listed above. Clinical seminar 2 hours.
D. Rosen, M. Lipp
The Psychiatric Aspects of Medical Practice is a weekly two hour clinical seminar, and a required part of the following clerkships: Ambulatory and Community Medicine 110, Obstetrics, Gynecology and Reproductive Sciences 110, Pediatrics 110 and Surgery 110.

140.01. Advanced Clinical Clerkship in Psychiatry. (11 per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of instructor.
Boatman Participation, with supervision of Department of Psychiatry attending and resident staff, in psychiatric assessment, treatment and consultation with adult or child inpatients or outpatients. Seminars, assigned reading and case presentations may be required.

140.02. Clinical Clerkship. (1 1/2 per week) Su, F, W, Sp. Prerequisite: Consent of Boatman
Clinical clerkship in off-campus hospitals, approved by the chairman of the department and the Dean. Suitable treatment procedures are performed under supervision.

140.03. Psychiatric Clerkship at VMC. (11 per week) Su, F, W, Sp. Prerequisite: Psychiatry 110.0. Solomon
Course provides clinical clerkships in psychiatry within the Fresno community mental health system, and includes inpatient, crisis, and rural services with individualized supervision. A limited number of housing accommodations are available.

140.04. Clinical Clerkship. (11 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Boatman Participation, under close supervision in accordance with student's level of experience and special interests, in clinical psychiatric treatment of adult or child inpatients or outpatients.

150.01. Psychiatric Research. (1 1/2 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Callaway Participation according to student's level of experience in areas such as neurophysiology, operant conditioning, psychophysiology, immunochemistry, and nontaxonomic communication. All work is under the close supervision of members of the faculty.

150.02. Block Elective in Human Development. (1 1/2 per week) Su, F, W. Prerequisite: Consent of instructor.
Fiske and Staff
Guided reading and research in human development. Work is devoted to personal development, social psychology of human development, socialization including the role of values; adaptive processes across the adult life course. Refer to Human Development and Aging courses.

150.03. Clerkship in Human Sexuality. (1 1/2 per week) Su, F, W, Sp. Prerequisite: Psychiatry 180 and consent of instructor.
S. Goldsmith
An introduction to sexual functioning, sexual dysfunctions and their treatment, the spectrum of human sexual experience, and students' own sexual values. A paper or project will be required.

150.04. Psychopathology of Speech and Language. (2) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 3 hours.
Ostwald A clinical course focusing on speech and language pathology and psychopathological concepts, and discussion of the interface between psychiatrists and patients interested in specific problems of communication. Patients with characteristic syndromes will be interviewed and suitable treatment procedures are performed under supervision.

150.05. Clinical Psychiatric Rounds. (2) W, Sp. Prerequisite: Consent of instructor. Seminar and clinic 2 hours.
Psychiatric inpatients are interviewed and their characteristics and case histories used as the basis for didactic teaching. A seminar format allows for free discussion between students and instructor.

150.06. Demonstration of Psychotherapy with Outpatients. (2) W, Sp. Prerequisite: Psychiatry 131A-B or consent of instructor. Lecture 2 hours.
Berblingen Demonstration of psychotherapy with outpatients with who are under intensive treatment. The observation session is followed by a seminar discussion. The purpose of the course is audio-visual participation in and viewing of models of intensive psychiatric treatment.

150.07. Psychosocial for Outpatients. (3-7) Su, F, W. Sp. Prerequisite: Psychiatry 130 and consent of instructor. Lecture 3 hours, Lab 0-12 hours.
Amini Clinical experience in psychotherapeutic work with outpatients to increase students' understanding of psychopathology, psychodynamics, and psychotherapists. Students are assigned patients under supervision of a member of the faculty. Assigned reading, seminars, and chart writing.

150.08. Psychosomatic Case Conference. (1 1/2 per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 1/2 hours.
Murphy Cases are presented in rotation by social work students. Emphasis is placed on the interrelationship between psychological, social, and somatic factors. Although primarily intended for social work students, course may be taken by psychiatric residents and other mental health professionals.

150.11. Psychotherapeutic Interview Techniques. (4-5) F, W, Sp. Lecture 4-5 hours. Ostwald Individual and group supervision of clinical work with patients. The focus is on developing rapport, obtaining relevant information, and establishing a therapeutic relationship. Videotapes of psychotherapy are shown after each session. Students in the Behavioral Specialist Pathway will be involved.

160.02. Clinical Psychiatric Rounds. (2) W, Sp. Prerequisite: Psychiatry 131A-B or consent of instructor. Lecture 2 hours.
Berblingen Demonstration of psychotherapy with outpatients with who are under intensive treatment. The observation session is followed by a seminar discussion. The purpose of the course is audio-visual participation in and viewing of models of intensive psychiatric treatment.

160.07. Psychosomatic Case Conference. (1 1/2 per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 1/2 hours.
Murphy Cases are presented in rotation by social work students. Emphasis is placed on the interrelationship between psychological, social, and somatic factors. Although primarily intended for social work students, course may be taken by psychiatric residents and other mental health professionals.

160.11. Psychotherapeutic Interview Techniques. (4-5) F, W, Sp. Lecture 4-5 hours. Ostwald Individual and group supervision of clinical work with patients. The focus is on developing rapport, obtaining relevant information, and establishing a therapeutic relationship. Videotapes of psychotherapy are shown after each session. Students in the Behavioral Specialist Pathway will be involved.

Berblingen Seminar and discussion for students who intend to enter primary care and non-psychiatric specialties. Emphasis is on the diagnosis and management of the hysterical personality in medical practice. Clinical case material will serve as a basis for assigned reading.

D. H. Wallace Collaboration or directed research in various topics related to human sexuality.

160.15. Introduction to Sex Counseling Principles. (4) F, W. Sp. Prerequisite: Psychiatry 160.14 or 180. Consent of instructor. Lecture 30 hours, Lab 20 hours. Course is given over a weekend.
D. H. Wallace and Staff
A didactic experimental overview of the etiology and ecology of functional sexual problems and of the principles underlying treatment. Lectures, clinical demonstrations, and group process are included.

160.17. Sexuality and Disability. (1) Su, F, W. Prerequisite: Psychiatry 160.14 or 180, or consent of instructor. Lecture 12 hours. Course is given over a weekend.
D. H. Wallace and Staff
Course covers the role of sexuality in rehabilitation of the physically and mentally handicapped, and principles of sexual counseling of the handicapped. Lectures, films, seminars, and community resource people will be involved.

160.18. Videotape Demonstration of Psychotherapy. (11/2) F, W. Prerequisite: Consent of instructor. Lecture 11/2 hours.
Enkelk Video tapes of psychotherapy are shown after each therapy session. Therapist is eclectic and emphasis is on essentials of psychotherapy and the overtopping of various theoretical views. Discussion is encouraged, and ranges widely.

170.01 Introduction to the Study of Suicide. (2) F. Prerequisite: Consent of instructor. Lecture 2 hours.
D. H. Wallace Suicide is surveyed from a multidisciplinary approach in seminars led by persons working in the field.

D. H. Wallace
Students in the Behavioral Specialist Pathway elect individual or group study of a topic not included in other formal courses. Supervised reading, research, audit, and directed research are given in accordance to the student's level of interest and experience.

Phillips and Staff
Seminar sketches normal development and its derangement through adolescence, to point out potential psychopathogenesis in the various phases of development.

170.06. Research in Human Sexuality. (2) Su, F, W. Prerequisite: Psychiatry 160.14 or 180, and consent of instructor. Lecture 1 hour, Lab 3 hours.
D. H. Wallace
Collaboration or directed research in various topics related to human sexuality.

170.07. Mental Health Aspects of Social, Physical, and Sensory Deprivation. (2) W. Prerequisite: Consent of instructor. Lecture 2 hours.
H. Schlesinger, Meadow, Brinich
and emotional development. Emphasis on social focus on cognitive schemata of self and others, and the cognitive processes involved in conscious experience, psychological defenses, and unconscious processes.


An introduction to psychodynamics which will focus on cognitive schemata of self and others, and the cognitive processes involved in conscious experience, psychological defenses, and unconscious processes.


Kiefer Philosophical relationships between medical, behavioral, physical sciences and major theories of the life cycle. Applications of the theories to medical practice, psychological and social stress in relation to disease; cultural/subcultural variations in the meaning of health, illness, and treatment.


Feinberg, G. Fein

Exploration of the current status of research in schizophrenia, chronic brain syndrome in the elderly, and acute brain syndromes.


Rubenstein Focus on clinical and ethical problems selected by the instructor. Seminar 3 hours.

180. Human Sexuality and Medical Practice. (1½) W. Lecture 1½ hour.

D.H. Wallace

Sexuality is studied as an entity of its own, rather than merely a response to male sexuality. Emphasis is on increasing personal knowledge through the study of physiological, psychological, social and cultural influences on sexuality, both historical and current.

181. The Black Experience. F.

Jackson, L. J. 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.

189. Laboratory Project in Psychiatry. (1½) W, Sp. Prerequisite: Consent of instructor.

L. J. Epstein and Staff

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

200A·B·C·D·E·F·G·H·I. Mental Health Practicum - Inpatient Services. (5-5-5) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1½ hours. Lab 6-15 hours.

Wanerman Supervised practicum in psychiatric emergency services. Course includes crisis evaluation, triage, disposition and treatment planning, crisis intervention, brief psychotherapy, instruction in the use of psychoactive medications, case conferences and seminars on related topics.

201A. Mental Health Practicum - Outpatient Services. (3-8 per section) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1-3 hours. Lab 6-15 hours.

J. Fisher, L. Davison

Supervised practicum in diagnosis and treatment of psychiatric outpatients. Students are responsible for diagnostic evaluations, treatment planning, psychiatric consultations, and, if utilized, psychopharmacological services. Course includes an examination, study and discussion of consultative procedures with appropriate case material.

201B. Children's Services. (1-5 per section) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 0-2 hours. Lab 3-9 hours.

J. Fisher, L. Davison

Supervised practicum in provision of psychiatric services for children. Course includes diagnostic evaluations, treatment planning, ongoing psychotherapy of children and their families, consultative work with school personnel, pediatricians, case conferences and seminars relating to child psychiatric services.

202B. Mental Health Practicum — Inpatient Services. (5-5-5) F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1½ hours. Lab 11 hours.

Rubenstein Focus on the theory and practice technique of care for psychiatric inpatients. Course includes individual psychotherapy, group, family and milieu therapy work in the use of psychopharmacologic agents, medicaments, administrative issues in patient management, working with other ward staff and related quality of life issues.

203A·B. Mental Health Practicum — Psychiatric Emergency Services. (3-3-3) F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1½ hours. Lab 4½ hours.

Zeligman Supervised practicum in psychiatric emergency services. Course includes crisis evaluation, triage, disposition and treatment planning, crisis intervention, brief psychotherapy, consultation and seminars on related topics.

204A. Mental Health and Psychological Issues in Patient Care. (3-3-3) F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1½ hours. Lab 4½ hours.

D. Rosen, H. Stein

Exploration of psychiatric and psychological issues in mental health facilities. Course includes supervised experience such as rounds in the general hospital, preceptorships in community mental health facilities, and lectures and seminars on related topics.


L. J. Epstein, Weinshel

Directed reading and small group seminars regarding models of understanding and psychotherapeutic interventions.


M. R. Harris

Course will focus on history, classification, concepts and theory as well as practice considerations related to mental health consultation. In addition to seminar participation, students may, where appropriate, arrange a supervised field experience in mental health consultation.

213. Advanced Mental Health Consultation. (1-3) F, W, Sp. Prerequisite: Psychiatry 212 and consent of instructor. Lecture 1 hour. Field work optional 5 hours.

M. R. Harris

Participants in this seminar have current or recent real-world consultation experiences. Focus is on the theory and practice technique of mental health consultation. Consultation experience is the basis for discussion.


Ahnem

Theoretical background for trainees in psycho-social diagnosis; individual and group therapy, family therapy, brief therapy and crisis intervention, cross-cultural therapy; work in clinical social work disciplines. Emphasis on clinical social work with geriatric patients, the physically ill, and others.

249. Special Studies in Mental Health. (1-5) F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1 hour. Lab 1½ hours.

Wanerman and Staff

Students, with faculty approval, select particular areas of the mental health field for advanced or intensive study. Areas chosen may be primarily clinical or nonclinical, but in most instances will combine clinical and nonclinical issues.


Stein Members of the Department of Psychiatry make clinically centered presentations reflecting all areas of the department's work. The course involves a two-session sequence, with the second week consisting of formal discussion of the previously presented work from various viewpoints.

402. Orientation to Psychiatric Research. (4½) Su.

Callaway

Guided tours through the research facilities of Langley Porter Institute and introductory presentations of research projects by individual investigators.


Individual treatment of current patients and other advanced trainees concerning treatment and management problems. Diagnostic questions, indications for somatic and psychological interventions, the course of therapy, and research issues are emphasized.

404. Issues of Personality. (1½) F, W, J. Fisher, Burke

Focus is on personality theories other than Freudian, such as Piaget, Skinner and Rogers. Course includes an examination, study and discussion of contemporary personality theories, their concepts, systematic application to the behavioral sciences, and research potentials. Parallel reading is required.

405. Personality Assessment. (1½) W.

J. Fisher, L. Davison

Seminar presents techniques of assessing personality and interpersonal and intellectual functioning in relation to psychodiagnostic evaluations and study of prognosis with psychotherapy. Discussion of development, design, and theory of psychological clinical methods and clinical applications and demonstrations with appropriate case material.


Ostwald

Individual and group instruction is given for psychiatric residents working with medical students in Psychiatry 410. Techniques and methods of clinical supervision and learning are analyzed, together with selected reading assignments.
407. Research in Behavioral Sciences. (1-10) Su, F, W, Sp. Callaway Course consists of supervised clinical and basic research in behavioral abnormalities, psychopathology, and experimental psychiatry. Specific subjects for research are chosen in conjunction with members of the staff.


413. Introduction to the Computer. (2-3) F, W, Sp. Lecture 1 hour. Lab 3-4 hours. Starkweather Seminar presents a review of digital computing and its applications in psychiatry. Residents explore these concepts through their own programming efforts.

414. Issues of Diagnosis and Treatment Planning. (11) F, W, Lecture 1 ½ hours. R. S. Wallerstein Individual cases are presented by students for assessment. Goals are discussed and the rationale for the particular psychotherapeutic approach is considered. Course is required for first year residents in psychiatry. Students in the Doctor of Mental Health Program.


419. Child Development and Personality. (15) Su. Prerequisite: Consent of instructor. Conrad, Friedlander, D. Morrison Seminar is focused on the most common and prevalently used methods of assessing intelligence, perceptual-motor integration, and personality in children. Emphasis on evaluating experimental materials as well as all supporting research are covered. Participation is required.


421. Cultural Sources of Western Concepts of Man. (1) F, W, Sp. Prerequisite: Third year resident standing, or one year of research experience, or consent of instructor. Seminar 1 hour.

422. Mental Health Consultation. (1-2) F, W, Sp. Prerequisite: 421. Lecture 1 hour. Fieldwork and readings. Harris Course will focus on history, classification, concepts and theory of mental health consultation. Emphasis will be placed on appraising and recommending consultation services related to mental health consultation. In addition to seminar participation, students may, where appropriate, arrange field experience in mental health consultation.


424. Research on Human Response to Stress. (4) Su, F, W, Sp. Prerequisite: Graduate or advanced resident standing. One year of advanced psychological or psychiatric work. Horowitz Guided research using experimental, field, and clinical modes of investigation into the typical and idiosyncratic human responses to external stressors. The focus is on conscious and unconscious ideational, emotional, and defensive processes.

425. Mental Health Consultation. (1-2) F, W, Sp. Prerequisite: 421. Lecture 1 hour. Fieldwork and readings. Harris Course will focus on history, classification, concepts and theory of mental health consultation. Emphasis will be placed on appraising and recommending consultation services related to mental health consultation. In addition to seminar participation, students may, where appropriate, arrange field experience in mental health consultation.

426. Advanced Mental Health Consultation. (1-3) F, W, Sp. Prerequisite: Psychiatry 425. Lecture 1 hour. Fieldwork and readings. Harris Participants in this seminar have current or recent responsibility for a mental health consultation. Seminar content focuses on the practice of mental health consultation. Consultation experiences provide the major content for discussion.

427. Advanced Psychotherapy. (2-4) Su, W, Sp. Prerequisite: Consent of instructor. Horowitz Course covers psychotherapy of selected cases with recordings of the process, supervision during treatment, and group seminars in which the theory is reviewed in retrospect using microanalytic and macroanalytic levels of abstraction.

428. Practicum in Sex Counseling. (8) Su, W, Prerequisite: Consent of instructor. Psychiatry 428 must be taken in order and consecutively with 429. D. H. Wallace Six month rotation in the Sex Counseling Unit involving presentations, case conferences, and supervised counseling experience with couples and individuals. Seminar 2 hours.

429. Practicum in Sex Counseling. (8) F, Sp. Prerequisite: Psychiatry 160.14 and 160.15, or 180, or consent of instructor. Psychiatry 429 must be taken in order and consecutively with 428.

430. Clinical Conferences of the Child and Adolescent Psychiatrist. (2-2) F, W, Sp. Prerequisite: 426. Members of the faculty and visiting professionals will present clinical discussions and new developments related to the field of child and adolescent psychiatry.

431. Program Evaluation in Mental Health and Other Human Service Organizations. (2) F, W, Sp. Equivalent to Psychology 221. Seminar 2 hours. Attkisson, Hargreaves A seminar course designed to provide a basic overview of the organizational context of program evaluation; design and implementation of information systems; assessment of community needs; evaluation of program quality and effectiveness, and training of evaluators.


433-B-C. Special Seminar in Physiology—Biological Research in Psychopathology. (1-1-1) F, W, Sp. Equivalent to Psychology 233B-C. Callaway An ongoing seminar devoted primarily to the research interests of the group studying human experimental and related topics. It includes visiting scientists, as well as presentations by staff and postdoctoral fellows.

434. Cerebral Hemispheric Specialization and Integration. (2) Sp. Prerequisite: Background in neuroanatomy, anatomy, clinical neurology, and clinical neuropsychology. Galin Group discussions of research in seminar format on neurophysiology of hemispheric specialization for cognitive function, and integration of the two hemispheres. Emphasis is placed on neurophysiological, experimental, and educational implications; evaluation of data from studies of brain function, electrophysiological recordings, and behavioral treatments.

437A-B. Proseminar in Psychological Research. (2-2) F, W. Prerequisite: Background in statistics and methods of research. Seminar 2 hours. Galin Models for dealing with psychosocial issues in the clinical setting of the patient. Equivalency 256A-B.

H. Beeke, Salamy Students enrolled in the program are required to prepare a seminar on the literature, and present a written and oral report. A revised paper, written in professional journal style complete with peer review, must be completed for both oral and simulated data and conclusion is also required.

438A-B-C-D. Intermediate Family Therapy. (1-3-3-3) SS, Su, F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Four-quarter course. Equivalent to Psychology 285A-B-C-D. Hatcher Focus is on the development, communications analysis, role definitions, family, power and resistance systems, group concepts, group family therapy, and the development of early family therapy. Emphasis on clinical and practical issues, video presentation of families in treatment, clinical supervision of ongoing cases.


440. Impact of Health Insurance and Legislation on Practice. (2) F. Equivalent to Psychology 230. Lecture 2 hours. Dorken, Hall Overview of the nature and types of health insurance as economic forces in practice; discussion of health care delivery models, health care financing, and patient review systems with utilization data; proposals for national health insurance studied; illustration of the legislative process.

441. Social and Psychological Factors in Medicine. (2) W. Equivalent to Psychology 181.05. Seminar 2 hours. B. J. Henderson Overview of the major concepts and approaches in health education, focusing on chronic illness, physical disability, primary and secondary prevention of health risks and problems, and socio-cultural determinants; specific techniques for helping people modify life styles.

442. Current Topics in Biological Psychology. (2) Sp. Equivalent to Psychology 232. Seminar 2 hours. S. Hall, Salamy, H. Beeke A seminar course focusing on a current topic in biological psychology such as neurophysiology, lateralization of brain function, psychophysiology of stress, or physiology of attention. Individual presentations and discussion are required.

the sequence of events encountered by the health professional and patients from diagnosis through treatment. Courses are intended for medical, nursing and mental health students.


Residents are responsible for the study and treatment of psychiatric patients and consultation of non-psychiatric patients under the supervision of senior staff members of the faculty. Parallel reading is required.


M.R. Harris, L.J. Epstein

Program planning and consultation concerning administrative, teaching and research roles of chief residents.


I. Phillips

Residents in child psychiatry are responsible for the diagnosis and treatment of children with psychiatric problems and for therapeutic work with their parents under the supervision of the senior staff.


I. Phillips

In addition to clinical work, the residents in child psychiatry are required to supervise the work of children outside over treatment reviews and interagency conferences.


L. D. Brown

Lectures in the theory and practice of mental health consultation, program evaluation and administration of mental health services. Supervision of related field experiences by senior faculty in seminar setting. Interdisciplinary interaction emphasized. Review of relevant literature.


M. Amini

Introduction to the basic psychiatric syndromes; required for first year psychiatric residents.


M. Amini

Introduction to the theory and practice of the family group, and behavior therapy; required for second year psychiatric residents.


M. Amini

The seminar offers instruction in the theoretical bases of psychoanalysis.


M. Amini

Seminar offers instruction in the technique of psychoanalytic psychotherapy and its theoretical basis.


R.S. Wallerstein

Problems in psychotherapy conducted within a psychodynamic framework. Topics include: treatment indications, goals, motivation and treatability, resistance and defense, transference and counter-transference, dreams in psychotherapy, third party involvements, emergency and hospitalization, adjuvant drug management, note taking and recording, transfer and transference, dreams in psychotherapy, third party involvements, emergency and hospitalization, adjuvant drug management, note taking and recording, transfer and transference.


A. Nelken

Instructor's psychotherapeutic sessions with the patient are videotaped and played back and discussed with second and third year residents and other trainees. The material is objective and repeatable; the therapist is frank and self-critical; various theoretical views are compared.

475. Medical Decision-Making. (3) Sp. Prerequisite: Consent of instructor. Lecture 3 hours. P.J. Hoffman

A review of selected studies drawn from decision analysis and judgment research literature. Subjective probability estimates; confidence, bias and diagnostic accuracy; Bayes-optimal strategies; computer-aided diagnosis; physician's biases in diagnostic decision-making; judgments of clinical competence and administrative decision-making.


L. Blackwell, Cartwright

Development of theoretical models and the use of these models to apply principles of development to the unique needs of patients.

170. Patient Compliance. (2) W. Lecture 2 hours.

G. Stone

Patients' cooperation with health regimens contributes significantly to outcomes of health care. This course reviews factors that affect degree of compliance and examines results of attempts to improve compliance. Stress is placed on tailoring methods to specific clinical circumstances.


Garfield

Models for dealing with psychosocial issues involved in caring for the dying patient. Emphasis on the sequence of events encountered by the health professional and patient from diagnosis through death. Course is intended for medical, nursing and mental health students.

180.01. Seminar in Psychology. (1) W. Seminar 1 hour.

Plainfield

Weekly discussions in which students' clinical cases are analyzed by dynamic application of behavioral theory.


Plainfield

This course integrates students' basic training from the specialty courses in dentistry with knowledge of the psychological considerations necessary to individualize treatment. Appropriate treatment may then be planned to the practitioners' awareness of the unique needs of patients.

180.03. Advanced Psychology for Dental Hygienists. (1) Sp. Seminar 1 hour.

Plainfield

Seminar discussions on the emotional aspects of interpersonal transactions among office personnel, therapists, and patients.


A. Blackwell, Cartwright

Consideration of psychological responses under stress and of alternative constructive methods for coping, with practice in using these techniques. Coping strategies for handling stress and apply such principles to management of patients.

181.02. Cerebral Hemispheric Specialization and Integration. (2) § Prerequisite: Background in neurophysiology, anatomy, cognitive psychology; intended for advanced students. Consent of instructor. Seminar 2 hours. Equivalent to Psychiatry 434. Galin

Group discussions of readings in seminar format of neuropsychology of hemispheric specialization for cognitive function, and integration of the two hemispheres; developmental, psychiatric and educational implications; evaluation of data from study of brain lesions, electrophysiological recordings, and behavioral testing.

181.03. Clinical Biofeedback. (2) F, W. Seminar 2 hours.

P. Pelletier

Integration of biofeedback with psychotherapy and medical practice; methods of intervention and pre-
complete with data analysis, using original or simulated data and conclusions is also required.

257. Introduction to the Computer for Behavioral Sciences. (3) § F. Prerequisite: Elementary statistics and consent of instructor. Lecture 1 hour, Lab 6 hours. 
N. Starkweather
The computer is studied as a useful tool for data analysis and computer experimentation. Students learn to make use of existing program systems.

260A. The Health System. (3) § W. Prerequisite: Graduate standing in Health Psychology Program, or consent of instructor. Lecture 1 ½ hours, Seminar 1 ½ hours. Offered in alternate years. Not offered 1978-79. 
G. Stone
Function and tasks of the health system: resources available and their deployment; institutions and organizations, professional roles; constraints imposed by rules, customs, societal factors. Issues of access, utilizaion, outcomes, financing will be stressed. Participation by invited guest experts.

260B. The Health System. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Not offered 1978-79. 
F. Cohen
Examination of empirical research and theoretical perspectives in certain problem areas within the health system where psychological knowledge is of direct relevance, such as psychological problems of chronic illness, psychological factors predisposing illness, compliance, de-individuation among health professionals.

G. Stone
Students will be placed in an ongoing research project, initially as an apprentice; subsequently they will carry out an individual project. They will participate in a seminar, a seminar, where research methods and strategies will be discussed.

G. Stone
Processes of giving and gaining health services are viewed as multi-person problem situations to be resolved in the context of the patient's social and psychological environment. Students are encouraged to analyze the dynamic relationships of the individual and the social environment.

265. Stress and Bodily Diseases. (3) § W. Prerequisite: Consent of instructor. Seminar 3 hours. Offered in alternate years. Offered 1978-79. 
F. Cohen
Examination of the psychological and physiological models and empirical research linking stress and other psychological factors to the development and treatment of major behavior disorders and to psychophysiological theories of personality development. Links between personality dimensions and health-related behaviors.

266. Reproductive Behavior. (3) § Sp. Prerequisite: Consent of instructor, Seminar 3 hours. Offered in alternate years. Offered 1978-79. 
N. Adler
Examination of the role that psychological and social factors can play in the development of reproductive behaviors: pregnancy, obstetrical complications, postpartum reactions, infertility, contraception, and non-use, spontaneous abortion.

G. Stone
A three-part course that teaches a number of skills involved in face-to-face interactions and prepares the student to teach the skills to others. Skills include: data gathering, preparing emotional support, joint problem-solving, giving information, making recommendations, leading discussions.

271A-B-C. Communication in Small Groups. (2-2-2) § F, W, Sp. Prerequisite: Psychology 270A-B-C or consent of instructor. Seminar 1 hour, Lab 3 hours. Three-quarter course. 
G. Stone
Theories and research on small groups, covering various functions such as problem-solving, work, education, emotional support, and personal growth. Readings, discussions, observation and supervised role-playing of students to organize, lead, diagnose, and teach the leadership of such groups.

280. Clinical Approaches to Psychological Disorders. (3) § W. Prerequisite: Psychology 210 or equivalent. Seminar 2 hours. Offered in alternate years. Not offered 1978-79. 
F. Cohen
Critical evaluation of current models of behavior therapy including psychodynamic and biochemical theories; emerging models in behavior therapy; issues of labeling and stigmatization; process of therapeutic intervention and defenses and coping.

281A-B-C. Seminar in Clinical Psychology. (1-1-1) § F, W, Sp. Prerequisite: Psychology 280A-B-C or consent of instructor. Seminar 1 ½ hours. 
T. Phillips
Seminar discussions of clinical work in psychology and research in psychology. Students participate in current literature by students and staff, and lectures by faculty. Course is intended primarily for advanced students in clinical psychology.

282. Major Variants of Behavior: Abnormal Psychopathology. (2) § F, W, Sp. Prerequisite: Consent of instructor. Course is intended primarily for advanced graduate students. Seminar 2 hours. 
F. Cohen
A seminar that examines the theoretical and empirical bases of abnormal behavior as it relates to the development of abnormal behavior.

283A-B. Seminar in Clinical Neuropsychology. (1-1) § F, W. Prerequisite: Consent of instructor, Seminar 1 hour. 
D. Steinheber
Clinical investigations of human brain-behavior functions, emphasizing relationships between higher cognitive components of behavior and brain disorder. Neuropsychological and neuropsychological evaluations of brain damaged patients. Course is intended primarily for advanced students.

285A-B-C-D. Intermediate Family Therapy. (1-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours, Lab 3 hours. Four-quarter course. 
T. Phillips
Stages in family development, communications analysis, role of group process, power and resistance systems, growth models of family therapy, and intervention techniques. Emphasis on clinical and practical issues, video tape presentations of families in treatment, clinical supervision of ongoing cases.

290. Impact of Health Insurance and Legislation on Practice. (2-2-2) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 2 hours. 
F. Cohen
Review of the nature and types of health insurance, as economic forces in practice; discussion of health care delivery models, manpower resources and peer review systems with utilization data; proposals for rational health insurance studied; illustration of the legislative process.

299. Dissertation. (0) § F, W. Prerequisite: Advanced candidacy and permission of the graduate committee. 
T. Phillips
For graduate students engaged in writing the dissertation. For the Ph.D. degree.

300. Practicum in Teaching Psychology. (0) § F, W, Sp. Prerequisite: Consent of instructor. Lecture. 
T. Phillips
Supervised classroom or tutorial teaching experience.

Radiation Oncology

140.01. Radiation Oncology Clinical Clerkship at UC. (1-1-1) § Su, F, W. Prerequisite: Medicine 131A-B-C. 
T. Phillips
Participation in examination of cancer patients under the supervision of the attending physician. Students participate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques.

140.06. Clinical Clerkship in Radiation Oncology at MZ. (1-1-1) § F, W, Su. Prerequisite: Medicine 131A-B-C. 
J. Castro
Participation in examination of cancer patients under the supervision of the attending physician. Students participate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques.

150. Research Selective. (1-1) § F, W, Su. Prerequisite: Medicine 131A-B-C. 
T. Phillips
Individual research in radiation oncology by arrangement with the chairman of the department.

Students work under close supervision of a member of the staff.

T. Phillips
Round includes presentation of problems cases with discussions of diagnosis and treatment as well as biologic implications. Frequent guest lectures are used to cover important aspects of oncology.

T. Phillips
Seminars in discussions of the clinical diagnosis, treatment and results of specialty oncology problems, including head and neck, gynecologic, otolaryngologic, pediatric, dermatologic, lymphomatous and general malignancies.

T. Phillips
Study of principles of radiobiology and their application to radiation therapy. Seminars deal in depth with textbooks, selected readings and prepared seminars leading to the understanding of action of radiation in clinical radiotherapy. Oriented to radiotherapy fellows and residents.

423. Concepts of Treatment Planning and Dosimetry in Therapeutic Radiology. (3) § F, W, Sp. Prerequisite: Residents assigned to therapeutic radiology. V. Smith
Workshop course to provide residents in therapeutic radiology with the elements of treatment planning and dose calculations.

V. Smith
A lecture-seminar course with practical sessions to provide the resident with a basic knowledge of the physics of radiological physics with special reference to those aspects relating to therapeutic radiology.

454. Clinical Therapeutic Radiology. (1-1) § F, W, Sp. Residents, under supervision, are responsible for diagnosis, treatment, and follow-up of patients referred to radiation therapy from the wards and outpatient clinics. Radiation therapy rounds include discussion of patients who require further evaluation.

Radiology

100. Introduction to Clinical Radiology. (2) § F, W, Sp. Prerequisite: Anatomy 100 and 103, Medicine 130, Pathology 102, and Psychiatry 130; concurrent enrollment in Medicine 131A-B-C. Lecture 1 hour, Lab 1 hour. 
S. Ross
Course provides instruction in basic aspects of diagnostic and therapeutic radiology and radiologic nuclear medicine. Illustration of diagnostic and therapeutic modalities in specific disease states provides instruction in use of radiologic resources.

100.01. Rontgen Diagnosis. (1-1-1) § F, W, Su. Prerequisite: Medicine 110 and Surgery 110. 
N. Margolis
Psychology / Radiation Oncology / Radiology

150
166 Radiology

A clerkship for third year students to help acquire knowledge and attitudes that ease transition from preclinical to clinical studies. Observation of procedures with case presentations are used to help learn mechanisms of disease and clinical judgment.


Course demonstrates anatomy in the living through the use of radiographs. Objectives are to show the usefulness of knowing anatomy, to begin acquiring a medical vocabulary, the elements of clinical thinking, and useful habits in learning. For freshman "Blue" group.


Course demonstrates anatomy in the living through the use of radiographs. Objectives are to show the usefulness of knowing anatomy, to begin acquiring a medical vocabulary, the elements of clinical thinking, and useful habits in learning. For freshman "Gold" group.

170.08. Nuclear Medicine Physics. (3½) Su. Prerequisite: Concurrent enrollment in Radiology.

Introduction to the physics of radioactivity, nuclear medicine including imaging techniques.

170.09. Introduction to Nuclear Medicine. (3) Su, F, W. Prerequisite: Concurrent enrollment in Radiology.

Students will be responsible for two presentations to the staff.


Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. The basic phenomena experienced in producing, measuring, and absorbing radiation are illustrated. Course is designed to give residents in radiology the necessary background to practice radiology.


Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. The basic phenomena experienced in producing, measuring, and absorbing radiation are illustrated. Course is designed to give residents in radiology the necessary background to practice radiology.

Course includes review of surgical pathology material and attendance at autopsies.


Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. The basic phenomena experienced in producing, measuring, and absorbing radiation are illustrated. Course is designed to give residents in radiology the necessary background to practice radiology.

420. Pathology. (1) Su, F, W. Prerequisite: Consent of instructor. Lecture 2 hours.


Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. The basic phenomena experienced in producing, measuring, and absorbing radiation are illustrated. Course is designed to give residents in radiology the necessary background to practice radiology.


Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. The basic phenomena experienced in producing, measuring, and absorbing radiation are illustrated. Course is designed to give residents in radiology the necessary background to practice radiology.


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162. Immediate Dentures. (2) W. Prerequisite: Removable Prostodontics 110B-C, 116B-C and course in diagnostic prosthodontics. Lab 6 hours.

126.02. Immediate Dentures. (2) W. Prerequisite: Removable Prostodontics 110B-C, 116B-C and course in diagnostic prosthodontics. Lab 6 hours.

126.03. Complete Prosthetics. (2) Prerequisite: Removable Prostodontics 125.01 and 126.02. Lab 6 hours.

126.04. Ceramics. (2) Prerequisite: Removable Prostodontics 125.01 and 126.02. Lab 3 hours.

130A. Treatment Planning and Prosthesis. (1) F. Prerequisite: Removable Prostodontics 122, 123, 126.01, 126.02 and 126.03. Lecture 1 hour.

130B. Advanced Removable Partial Denture Design. (1½) W. Prerequisite: Removable Prostodontics 109. Lecture 1 hour.

130C. Orofacial Prosthetics. (1) F. Prerequisite: Removable Prostodontics 130B. Lab 1 hour.

130D. Esthetic Complete Dentures. (1) F. Prerequisite: Removable Prostodontics 130B. Lab 1 hour.

130E. Computer-aided Design. (1) F. Prerequisite: Removable Prostodontics 130B. Lab 1 hour.

130F. Ceramic Restoration. (1) F. Prerequisite: Removable Prostodontics 130B. Lab 1 hour.

130G. Advanced Prosthetic Techniques. (1) F. Prerequisite: Removable Prostodontics 130B. Lab 1 hour.

130H. Removable Complete Dentures. (1) F. Prerequisite: Removable Prostodontics 130B. Lab 1 hour.

130I. Fixed Prostheses. (1) F. Prerequisite: Removable Prostodontics 130B. Lab 1 hour.

171A-B-C. Complete Prosthetics. (4-4-4) F, W. Prerequisite: Lab 1 hour. Lab and Clinic 1 hour.

Regli, M.L. Parker and Staff

Instruction in clinical and laboratory procedures related to partial prosthodontics.
settings such as clinics. Application and critique of research and concepts in this area.

126. Comparative Organizations. (3) F, W. Prerequisite: Consent of instructor. Lecture 3 hours. Staff

A critical review of classical and recent contributions to the sociology of formal organizations. A variety of types of organizations will be considered, with special emphasis on service organizations.

127. Seminar on the Future of the Family. (3) Sp. Lecture 2 hours. Lab 2 hours. Olesen Exploration of changing dating, sexual, sex-role, marital and familial patterns in the United States. These changes in the family are explored in light of future social trends and their potential impact on the social stratification of youth and the future social structure of the family.

129. Political Sociology of Aging. (2-4) W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 2 hours. Estes Major paradigms in the study of community and national power structures examined in terms of theoretical, methodological, empirical, ideological content, issues of actual and potential power of the aged considered in light of available data and the major paradigms discussed.

122. Seminar in Sociology. (2-4) F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 2 hours. Staff

Doctoral student seminar to discuss methods and problems in current research. Course may be repeated for credit.

122. Politics of Planning in the Human Services. (3) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 2 hours. Estes

Examination of trends in planning for the human services, including the role of government organizations, professionals and consumers in generating and benefiting from public service reforms. Planning in the fields of health and aging is emphasized.

124. Epistemological Problems in the Social Sciences. (4) W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 2 hours. Staff

Central epistemological problems in the social sciences examined in light of the research role, modes of conceptualization, scientific communication, and public information.

130. Analysis of Symbolic Systems. (2-4) F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 2 hours. Staff

Critical inspection and analysis of American symbolic systems, such as educational institutions and mass media of political communication with respect to the diffusion and alteration of values in specific sections of the society, such as health professions.

123. Advanced Seminar in Social Psychology. (2-4) F, W, Sp. Prerequisite: Consent of instructor. Seminar 2-4 hours. Olesen and Staff

An advanced seminar dealing with theoretical and conceptual problems in various areas of social psychology. Recent developments in theory and concepts in the field are reviewed.

233. Seminar in Urban Social Relations. (3) F. Lecture 2 hours. Lab 3 hours. A. Strauss

Working paper on selected topics bearing on the social psychology of urban living and the sociology of cities.

249. Studies in Sociology. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-8 hours. Lab 0-3 hours. Consent of instructor. License 3 hours. Staff

Students select special problems to investigate on an individual or collaborative basis. These studies may involve survey research, the collection or analysis of empirical data, or the development of conceptual analysis or of methodologies.

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

Students select special problems to investigate on an individual or collaborative basis. These studies may involve survey research, the collection or analysis of empirical data, or the development of conceptual analysis or of methodologies.

259. Dissertation. (0) F, W, Sp. Prerequisite: Approval of the graduate adviser.

Dissertation. (0) F, W, Sp. Prerequisite: Approval of the graduate adviser.

Speech and Hearing Science

247. Special Studies in Audiology. (1-3) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours. Lab 0-3 hours. Owens

Directed reading and laboratory work in the auditory and audiologic sciences.

249. Independent Study. (1-5) F, W, Sp. Prerequisite: Consent of instructor.

Consent of instructor. Staff

Students and instructor develop jointly a study plan involving tutorial, reading, and laboratory work. Students engage in intensive exploration of specific topics related to the anatomic, physiologic, psychological, and behavioral aspects of the speech and hearing sciences.

Surgery

110. Required Core Clinical Clerkship in General Surgery. (1 ½ per week) Su, F, W. Prerequisite: Medicine 110 and Surgery 110.

T. Hunt, Blaisdell, L. Way, V. Richards, Heer, Peter, P. Smith

Senior clinical clerks participate in clinic, ward, and operating room with direct involvement in postoperative and preoperative care at UC, SFGH, VA, C, UC, and SFGH.

110. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111. Ebert

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

110. Tissue Transplantation. (1 ½ per week) Su, W. Prerequisite: Medicine 131A-B and consent of instructor.

Participation in renal homotransplantation operations, ward rounds, transplantation and research conferences. Additional time is spent in the Surgical Research Laboratories, participating in experimental organ transplantation studies.


Students serve as acting interns on the vascular surgery team, participating in pre-operative, intraoperative, postoperative care of patients, as well as in clinics, rounds, and conferences.

110. Operable Heart Disease. (1 ½ per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 and 111.

UB C. Roe, PMC Gerbode, VA Ellis

Ward rounds and conferences on patients with operable heart disease. Students engage in intensive exploration of specific topics related to the anatomy, physiologic, psychological, and behavioral aspects of the speech and hearing sciences.
168 papers are discussed and critiqued. Papers representing the classical and current concepts in general surgery are covered.


170.02. Emergency Medical Care at SFGH. (1) F. Lecture 2 hours given in alternate weeks. R. Lim and Staff. Topics include first aid care with an introduction to splinting, resuscitation, psychiatric, and civil emergency. Format includes lectures, discussions, films, practice, and tour of Mission Emergency. Course is offered primarily for first and second year medical students.


199. Laboratory Project in Urology. (1-5) F, W, Sp. Prerequisite: Consent of instructor. Ebert and Staff. Laboratory research project under direction of a member of the faculty with the approval of the chairman of the department.

200. General Surgical Staff Conferences. (1½) F, W, Sp. SFGH Blaisdell, UC Ebert, VA L. Way. College of Medicine 110 or Surgery 110 or 111. Office Rotation. Conference includes case reports and demonstrations of the current available gross and microsurgical surgical pathology material from the operating rooms and pathology laboratories. Prerequisite: Surgery 110 or 111.

201. General Surgical Seminar. (2) Su, F, W, Sp. Rambo and Staff. Seminar includes case reports and demonstrations of the currently available gross and microscopic surgical pathology material from the operating rooms and pathology laboratories. Students present a single case.

203. Clinical Cardiopulmonary Surgery. (2) Sp. Prerequisite: Third or fourth year standing. Lecture 2 hours. Ebert, B. Roe, J. Hutchinson, N. Fishman. Seminars are conducted on a series of subjects relating to cardiopulmonary surgery, which may be attended separately or in conjunction with weekly rounds on cardiopulmonary patients.

205. Advanced Surgery Reading Course. (2) F, W, Sp. Trunkey. A weekly seminar where previously assigned papers are discussed and critiqued. Papers representing the classical and current concepts in general surgery are covered.

450. Clinical Surgery. (1½ per week) Su, F, W, Sp. UC Ebert, SFGH Blaisdell, VA L. Way, RDMC Heer, C. V. Richards. Residents, under supervision, are responsible for the operation of case records, laboratory work, preoperative patient preparation, assistance at operations, postoperative care, and attendance at follow-up clinic. Senior residents have certain additional administrative, teaching, and clinical responsibilities.

452. Experimental Surgical Laboratory. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 450 and 452 may not be taken concurrently.

453. Clinical and Experimental Surgery. (10) Su, F, W, Sp. UC Ebert. Assistant residents in off-campus hospitals approved by the chairman of the department and the Dean.

459. Clinical Surgery. (1½ per week) Su, F, W, Sp. SFGH Blaisdell, UC Ebert. Interns rotate through the general surgical service, including the intensive care unit. Under the direction of the attending staff, experience is provided in vascular, chest, head and plastic surgery, and surgery of the extremities.

495. Clinical Surgery. (1½ per week) Su, F, W, Sp. UC Ebert. 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

170. Teaching Methods. (1) F, W, Sp. Prerequisite: Consent of instructor. D.D.S. degree. Seminar 2 hours. Staff. Course provides resource information in the form of a systematic overview of educational technology. This information is introduced in conjunction with the development by the individual student of an actual microcourse, teaching a single skill.


Teaching Methodology 186.01A-B-C. Students teach in selected courses under supervision.

481. A-B-C. Practice Teaching. (0.3, 0.3, 0.3) F, W, Sp. Lab 3 hours.

R. J. Miller. 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 at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110. Tanagho.

Students work as interns on the Urology Service at UC. They also attend rounds and scheduled seminars with residents and visiting staff.


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

140.03 Urology Clinical Clerkship at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Group 110. Mears.

Students work as interns on the Urology Service at VA. They also attend rounds and scheduled seminars with residents and visiting staff.


Students work as interns on the Urology Service at SFGH. They also attend rounds and scheduled seminars with residents and visiting staff.


199. Laboratory Project in Urology. (1-5) F, W, Sp. Prerequisite: Consent of instructor. Staff. Seminar includes study of the basic sciences and urologic roentgenology with members of the attending staff.

400. Seminar. (1½) Su, W, Sp. Tanagho. Seminar includes study of the basic sciences and urologic roentgenology with members of the attending staff.


Course includes experimental investigation in urologic problems.


Seminar includes discussion of diagnosis and treatment of patients in the urology wards with the attending staff.
First year residents care for patients in the wards and outpatient clinics. Second and third year residents, under supervision, perform instrumental and surgical procedures and have administrative, clinical, and teaching responsibilities.

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