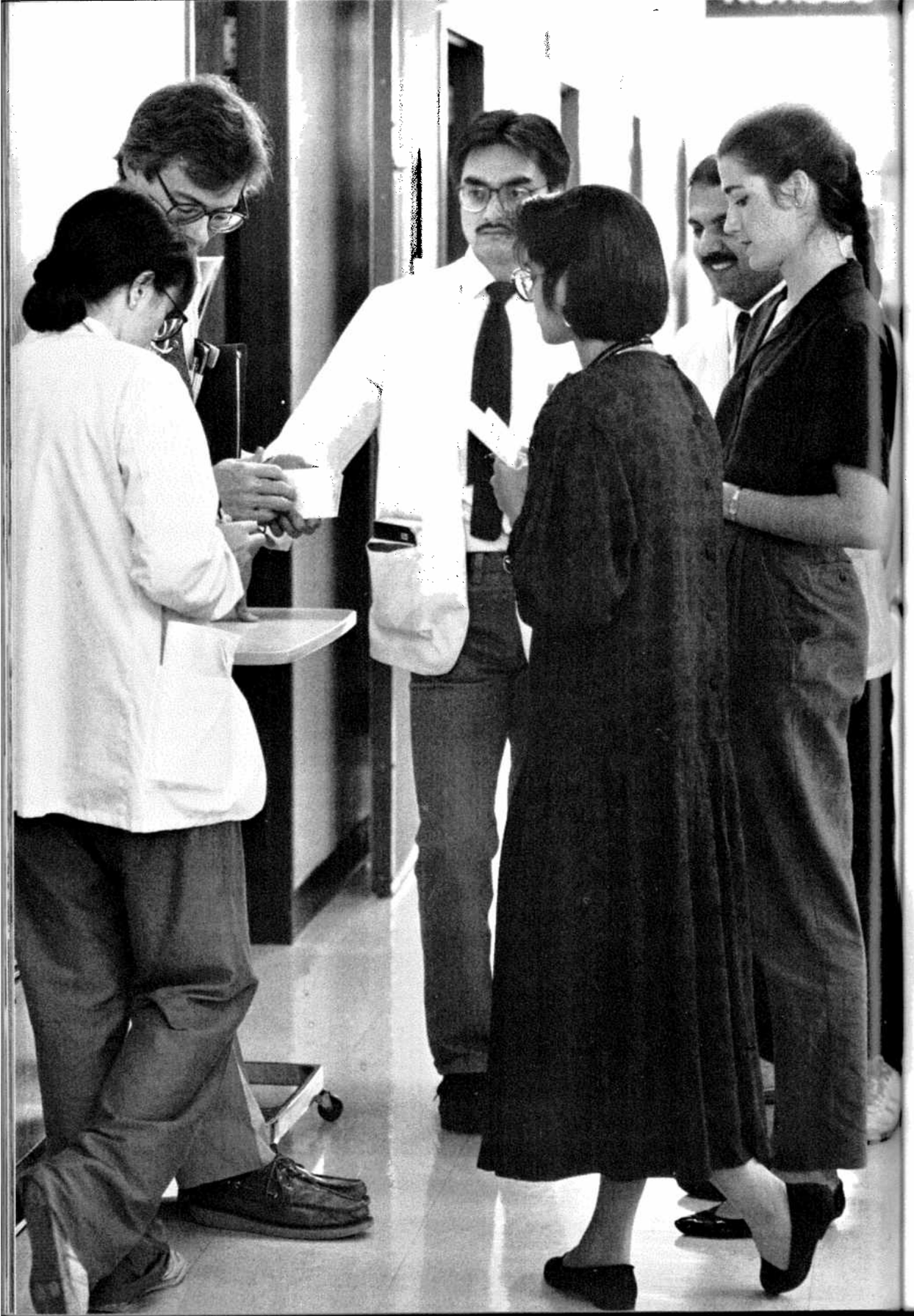
GENERAL CATALOG/90-91

UCSF

University
of
California
San Francisco



Courses

This chapter is a compendium of the courses of instruction offered by the University of California, San Francisco. Additional courses are offered by the schools (see Addresses section) under their programs of Continuing Education. Courses are arranged in numerical order under alphabetically listed subject headings. As these headings do not in every case correspond to a department, the responsible department or other instructional unit is indicated at the end of the course description for each course. Abbreviations used for these departments or instructional units are spelled out in the list below. Inquiries about individual courses should be addressed to the indicated department or instructional unit for information that is not included here, nor in the separately published bulletins of the four schools or of the Graduate Division. These bulletins, available from the respective schools or the Graduate Division, indicate, for example, the place of various courses in the different established curricula. Faculty rosters may also be found in the bulletins of the four schools.

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 per week, and instructor in charge. The second paragraph describes the course content, followed by department or other instructional unit.

Course Numbers: All courses are numbered according to the following system: 100 series=upper division professional course, 200 and 300 series=graduate academic course, and 400 series=postdoctoral professional course. The meanings of the second (tens) and first (units) digits vary among the schools. A detailed explanation of course numberings is available from the office of the dean of each school. The symbol § following the units designates a course approved for credit toward a graduate academic degree. Sessions—Su=summer term, SS=summer session, F=fall quarter, W=winter quarter, Sp=spring quarter.

Departments and Other Instructional Units

ANATOMY
Department of Anatomy, School of Medicine.

ANESTHESIA
Department of Anesthesia, School of Medicine.

BIOCHEM
Department of Biochemistry and Biophysics, School of Medicine.

CL PHARM
Division of Clinical Pharmacy, School of Pharmacy.

DENT PUB HLTH
Department of Dental Public Health and Hygiene, School of Dentistry.

DERMATOL
Department of Dermatology, School of Medicine.

EPID & BIOSTAT
Department of Epidemiology and Biostatistics, School of Medicine.

FAM CM MED
Division of Family and Community Medicine, School of Medicine.

FAM HLTH
Department of Family Health Care Nursing, School of Nursing.

GR DEVEL
Department of Growth and Development, School of Dentistry.

HIST HL SC
Department of History of Health Sciences, School of Medicine.

LAB MED
Department of Laboratory Medicine, School of Medicine.

MEDICINE
Department of Medicine, School of Medicine.

MENT HLTH COM ADM
Department of Mental Health, Community, and Administrative Nursing, School of Nursing.

MICROBIOL
Department of Microbiology and Immunology, School of Medicine.

NEURO SURG
Department of Neurological Surgery, School of Medicine.

NEUROLOGY
Department of Neurology, School of Medicine.

OB GYN RS
Department of Obstetrics, Gynecology and Reproductive Sciences, School of Medicine.

OPHTHALMOL
Department of Ophthalmology, School of Medicine.

ORAL & MAX SURG
Department of Oral and Maxillofacial Surgery, School of Dentistry

ORTHO SURG
Department of Orthopaedic Surgery, School of Medicine.

OTOLARYN
Department of Otolaryngology, School of Medicine.

PATHOLOGY
Department of Pathology, School of Medicine.

PEDIATRICS
Department of Pediatrics, School of Medicine.

PHARM CHEM
Department of Pharmaceutical Chemistry, School of Pharmacy.

PHARMACOL
Department of Pharmacology, School of Medicine.

PHARMACY
Department of Pharmacy, School of Pharmacy.

PHYS THER
Curriculum in Physical Therapy, School of Medicine.

PHYSIOL NURS
Department of Physiological Nursing, School of Nursing.

PHYSIOLOGY
Department of Physiology, School of Medicine.

PSYCHIATRY
Department of Psychiatry, School of Medicine.

RADIOLOGY
Department of Radiology, School of Medicine.

RESTOR DENT
Department of Restorative Dentistry, School of Medicine.

SOC BEH SC
Department of Social and Behavioral Sciences, School of Nursing.

STOMATOLOGY
Department of Stomatology, School of Dentistry.

SURGERY
Department of Surgery, School of Medicine.

UROLOGY
Department of Urology, School of Medicine.

Hospitals

AB
Alta Bates Hospital, Berkeley.

AS
Atascadero State Hospital, Atascadero.

C
Children's Hospital of San Francisco, San Francisco.

CHMC
Children's Hospital Medical Center of Northern California, Oakland.

CHS
Community Hospital of Sonoma, Santa Rosa.

CM
Ernest V. Cowell Memorial Hospital, Berkeley.

CSP
Center for Special Problems, San Francisco

DCH
Davis Community Hospital, Davis.

FCH
Fresno Community Hospital and Medical Center, Fresno.

GS
Good Samaritan Hospital of Santa Clara Valley, San Jose.

H
Highland General Hospital, Oakland.

K
Kaiser Foundation Hospital, San Francisco.

KP
Kaiser Foundation Hospital, Oakland.

KSSF
Kaiser Foundation Hospital, South San Francisco.

KHDV
Kaweah Delta District Hospital, Visalia.

L
Letterman Army Medical Center, San Francisco.

LPPI
Langley Porter Psychiatric Institute, San Francisco.

MG
Marin General Hospital, Greenbrae.

MHLB
Memorial Hospital Medical Center of Long Beach, Long Beach.

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.

NS
Napa State Hospital, Imola.

OC
O'Connor Hospital, San Jose.

P
Peralta Hospital, Oakland.

PH
Peninsula Hospital and Medical Center, Burlingame.

PMC
Pacific Medical Center, San Francisco.

RDMC
Ralph K. Davies Medical Center, San Francisco.

RLA
Rancho Los Amigos Hospital, Downey.

S
Stanford University Medical Center, Palo Alto.

SCC
Santa Clara Valley Medical Center, San Jose.

SFGH
San Francisco General Hospital Medical Center, San Francisco.

SGH
Scenic General Hospital, Modesto.

SHH
Silas B. Hays Army Community Hospital, Fort Ord.

SJ
San Joaquin General Hospital, Stockton.

SM
Samuel Merritt Hospital, Oakland.

SMC
Seton Medical Center, Daly City.

SRM
Santa Rosa Memorial Hospital, Santa Rosa.

SS
Sonoma State Hospital, Eldridge.

SSF
Shriners Hospital for Crippled Children, San Francisco.

STA
St. Agnes' Hospital and Medical Center, Fresno.

STF
St. Francis Memorial Hospital, San Francisco.

STL
St. Luke's Hospital, San Francisco.

STM
St. Mary's Hospital and Medical Center, San Francisco.

UC
University of California Hospitals and Clinics, San Francisco (includes Long, Moffitt, and Ambulatory Care Center).

UCD
University of California, Davis.

UCI
University of California Irvine Medical Center, Orange.

UCLA
UCLA Center for Health Sciences, Los Angeles.

UCSD
University Hospital, University of California Medical Center, San Diego.

VA
Veterans Administration Medical Center, San Francisco.

VAF
Veterans Administration Medical Center, Fresno.

VAM
Veterans Administration Medical Center, Martinez.

VAPA
Veterans Administration Medical Center, Palo Alto.

VASD
Veterans Administration Hospital, San Diego.

VMC
Valley Medical Center of Fresno, Fresno.

Anatomy

100A. Systemic Regional & Devel Anat. (5) § F. Lecture 3 hours. Lab 6 hours.
Sutherland 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. ANATOMY

100B. Systemic Regional and Devel Anat. (4) § W. Lecture 2 hours. Lab 6 hours.
Sutherland 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. ANATOMY

100C. Systemic Regional & Devel Anat. (5) § SS. Lecture 3 hours. Lab 6 hours.
Sutherland 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. ANATOMY

103. Nervous System: Form & Funct. (4-6) § Sp. Prerequisite: Consent of instructor required for graduate students. Lecture 5 hours. Lab 3 hours.
H. Ralston, Stryker and Staff
The structure and function of the mammalian nervous system studied in lectures, conferences, demonstrations, and laboratories, with emphasis on the human nervous system and its organization. Intended for students in the School of Medicine and as an introductory course for graduate students. ANATOMY

103.01. Neuroanatomy. (2) Su. Prerequisite: Completion of course prerequisites for admission to the University and the Curriculum in Physical Therapy. Open only to students enrolled in the Curriculum, or consent of program director. Lecture 1 hour. Lab 3 hours.
Garoutte
The structural organization and function of the central nervous system are presented through lecture and laboratory study of models, wet and dry demonstration. Special emphasis accorded to clinical functional correlations. ANATOMY

115. Histology. (3) § W. Lecture 2 hours. Lab 3 hours.
Martin and Staff
A study of the microscopic structures of the tissues and organs of the human body by means of lectures, demonstrations, and microscope slides. Functional aspects of the structures are stressed. Intended for students in the School of Pharmacy. ANATOMY

116. Gross Anatomy. (3) § Sp. Lecture 2 hours. Lab 3 hours.
Sutherland
A study of the macroscopic structure of the human body by means of lectures and dissections. Functional aspects of the structures are stressed. Intended for students in the School of Pharmacy. ANATOMY

117.01. Gross Anatomy & Embryology. (4) F. Prerequisite: First-year dental standing. Lecture 5 hours, Lab 15 hours.
S. Fisher
The gross structure and developmental anatomy of the thorax and abdominal regions are studied by means of lectures, laboratory exercises, and demonstrations. The functional significance of the structures is emphasized. STOMATOLOGY

117.02. Head & Neck Anatomy. (4) F. Prerequisite: First-year Dentistry standing. Lecture 2 hours. Lab 6 hours.
S. Fisher
The gross anatomy of the head and neck is studied by lectures and dissection. Clinical applications and functions of importance to the dentist are emphasized. STOMATOLOGY

117C. Neuroanatomy. (2) W. Prerequisite: First-year Dentistry standing. Lecture 1 hour. Lab 3 hours.
H. Ralston
The structure and function of the nervous system studied by means of lectures, laboratory exercises, and demonstrations. STOMATOLOGY

118. General Histology. (4.5) § F. Lecture 4 hours. Lab 2 hours.
R. H. Kramer
The microscopic structure of tissues and organs of the body are studied with histophysiological considerations. STOMATOLOGY

150.01. Gross & Regional Anatomy. (1.5 per week) § Su, F, Sp. Prerequisite: Program must be approved by department and adviser during quarter previous to enrollment.
Asling
Individual or group dissection; advanced review of gross anatomy. Intended as a block elective course for advanced medical or graduate students.
ANATOMY

156.01. Gross Anatomy & Embryology. (2.5) F. Prerequisite: Dental Hygiene standing. Lecture 5 hours. Lab 4 hours.
S. Fisher

The gross structure and developmental anatomy of the thorax and abdominal regions are studied by means of lectures, laboratory exercises, and demonstration. The functional significance of the structures is emphasized. STOMATOLOGY

156.02. Head & Neck Anatomy. (3) F. Prerequisite: Dental Hygiene standing. Lecture 2 hours. Lab 3 hours.
S. Fisher
The gross anatomy of the head and neck is studied by lectures and demonstrations. Clinical applications and functions of importance to the dental hygienist are emphasized. STOMATOLOGY

156C. Neuroanatomy. (2) W. Prerequisite: Dental Hygiene standing. Lecture 1 hour. Lab 3 hours.
H. Ralston
The structure and function of the nervous system studied by means of lectures, laboratory exercises, and demonstrations. STOMATOLOGY

170. Advanced Head & Neck Anatomy. (1-5) Sp. Prerequisite: General histology, gross anatomy of the head and neck, and oral histology. Lecture 1 hour. Lab 0-12 hours.
Staff
Designed for postgraduate specialty certificate students enrolled in the clinical specialty training programs in the School of Dentistry. Seminar presentation and demonstrations of head and neck anatomy are correlated with their application to clinical dentistry. RESTOR DENT

170.01. Medical Scholars Program Workshops. (1) F, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Lab 1 hour.
Sutherland, Ralston
Workshops in anatomy and neuroanatomy, offered concurrent to the first-year course, will present challenging material in the form of problem sets which students will solve in groups. Material, geared toward high-achieving students, will augment basic coursework with clinical and basic science information.
ANATOMY

170.02. Survey of Congenital Defects. (2) Sp. Prerequisite: Gross anatomy and consent of instructor. Lecture 2 hours. Offered in summer or spring of even-numbered years.
McKenzie
This 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. ANATOMY

170.09. Language of Anatomy. (1) § Su, F, W. Prerequisite: Concurrent enrollment in Anatomy 100. Lecture 1 hour.
Asling
A three-component elective, fostering vocabulary-building in anatomico-medical terminology, reflecting history of medical and cultural themes influencing development of anatomical nomenclature, and through student oral reports on eponymic terms, introducing some major figures in anatomy. ANATOMY

172. Clin Anat through Cross-Section. (2) § Sp. Prerequisite: Anatomy 100. Not open to first-year medical students. Lecture 1 hour. Lab 3 hours.
Asling
Clinically oriented survey of human anatomy through analysis of representative cross-sections of the body. Course provides an anatomical background for understanding computed tomograms. Student will prepare and keep an anatomy atlas usable in radiologic tomography. ANATOMY

198. Supervised Study. (1-5) § Su, F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. ANATOMY

199. Laboratory Project. (1-5) § Su, F, W, Sp.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. ANATOMY

201. Radiat Effects on Genes & Chrom. (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 give insight into the structure of chromosomes and the interaction of radiation with biological material. ANATOMY

203. Techniques in Cell Biology. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1990-91.
S. Rosen, Werb
Course introduces the literature and provides training in topics such as lipid, carbohydrate, peroxidase, general enzyme histochemistry, and ultrastructural cytochemistry; immunoelectrophoresis; immunoelectron microscopy; cell fractionation. Content of course will vary from year to year depending upon students' needs and interests. ANATOMY

204. Cytogenetic Techniques. (3) § Sp. Prerequisite: Consent of instructor. Lab 6 hours.
S. Wolff
Course covers instruction in various methods of chromosome banding as well as cell cycle analysis by autoradiography. ANATOMY

207. Neuromuscular Physiology. (3) § W. Prerequisite: Basic Human Neuroanatomy or consent of instructor. Lecture 3 hours.
Garoutte
A study of the physiology of striated muscle and peripheral nerve in relationship to controlling mechanisms within the nervous system.
ANATOMY

215. Laboratory Rotation. (4) § F, W, Sp. Prerequisite: Consent of instructor. Lab 12 hours.
Werb and Staff
A laboratory rotation course to familiarize new departmental graduate students with various approaches in research. ANATOMY

220. Anatomy 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. ANATOMY

225. Experimental Neuroanatomy. (4) § SS1, SS2. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 6 hours. Lecture and lab full time for 2 weeks. Offered in alternate years. Not offered 1990-91.
M. LaVail, Ralston, J. LaVail, Basbaum
Lectures and laboratory projects on the principles and experimental methods of analyzing the neural organization of the central and peripheral nervous systems. Topics include neurocytology, axon transport, neural degeneration, immunocytochemistry, autoradiography, electron microscopy, quantitative data acquisition methods, and photomicrography. ANATOMY

230. Developmental Biology. (3) § F. Prerequisite: Biochemistry 245 and 246 or consent of instructor. Lecture 3 hours.
Calarco, Pedersen
Principles of development presented with an emphasis on cell and molecular research approaches. Topics to be included are early development, cell-cell interactions, and terminal differentiation. Lectures and student discussions of current and classical research approaches. ANATOMY

231. Devel of Cellular & Molec Biol. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1990-91.
Calarco
Molecular and cellular events relating to differentiation and development. A variety of developmental phenomena will be surveyed and related, where possible, to genetic and epigenetic control mechanisms. ANATOMY

233. Mammalian Chimeras & Mosaics. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Offered in alternate years. Offered 1990-91.
Pedersen
Course focuses on procedures for producing mammalian chimeras and the use of chimeras in analysis of development. Topics to be covered include analysis of parthenogenesis, cell commitment, differentiation, growth control, neoplasia, germ cells, and reproduction. ANATOMY

235. Developmental Neurobiology. (1-3) § W. Prerequisite: Consent of instructor. Lecture 1-3 hours. Offered every three years. Offered 1991-92.
J. LaVail, M. LaVail, L. 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. Lectures, student presentations, and discussions of classical and current literature. ANATOMY

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

273. Biolog Scanning Electron Micros. (1) § W. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 2 hours for three sessions. Enrollment limited.
J. Long and Staff
Principles of scanning electron microscopy including tissue preparative techniques and applications. Laboratory sessions include participation in preparing and viewing biological specimens. ANATOMY

298. Thesis. (0) § F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the thesis for the master's degree. ANATOMY

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

300. Practicum in Teaching. (1-4) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Training in teaching in a course offered by the Department of Anatomy under the supervision of instructor in charge. Laboratory teaching, presentation of lecture material, experience in setting up and correcting of examinations, and participation in course are included. ANATOMY

400. Clin Anat through Cross-Section. (2) Su, Sp. Prerequisite: Open to house staff members of UC hospitals. Lecture 1 hour. Lab 3 hours.
Asling, Ross
Clinically oriented survey of human anatomy through analysis of representative cross-sections of the body. Course provides an anatomical background for understanding computed tomograms. Student will prepare and keep an anatomy atlas usable in radiologic tomography. ANATOMY

Anesthesia

110. Anesthesia Core Clerkship. (3) Su, F, W, Sp. Prerequisite: Medicine 130, 131A-B-C, Physiology 100, Pharmacology 100A-B, and Psychiatry 130.
Staff
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 AB hospitals. ANESTHESIA

140.01. Advanced Anesthesia Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Anesthesia 110.
Shapiro
Clinical clerkship in operating room anesthesia, care of the unconscious patient, and management of patients in the recovery room. Not scheduled through elective lottery. Contact Department of Anesthesia, extension 63234, to schedule. ANESTHESIA

140.02. Off-Campus Clerkship. (1.5 per week) § Su, F, W, Sp. Prerequisite: Anesthesia 110.
Shapiro
Off-campus clinical clerkships in approved hospitals by special arrangement and approval of the Director of Medical Student Education, Department of Anesthesia. ANESTHESIA

140.03A. Intensive Care Clerkship–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Anesthesia 110, Medicine 110, and Surgery 110.
Schlobohm, Luce, Katz, Schecter
Clinical clerkship on techniques of intensive care with primary emphasis on respiratory, cardiovascular, and renal pathophysiology. Patient population includes adult and pediatric patients with medical and surgical illnesses, a significant percentage of whom have been severely traumatized.
ANESTHESIA

140.03B. Intensive Care Clerkship–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Anesthesia 110, Medicine 110, and Surgery 110.
Cohen, Matthay
Clinical clerkship on techniques of intensive care with primary emphasis on respiratory, cardiovascular, and renal pathophysiology. Patient population includes adult and pediatric patients with medical and surgical illnesses, a significant percentage of whom have undergone cardiac surgery.
ANESTHESIA

140.04. Obstetrical Anesthesia. (1.5 per week) F, W, Sp. Prerequisite: Anesthesia 110. Course must be taken concurrently with 140.05 to create a four-week advanced anesthesia rotation.
M. Rosen
Course covers anesthesia and analgesia for vaginal delivery and cesarean section. Emphasis is placed on effects of anesthetic techniques and drugs on normal physiologic changes in labor and delivery, placental transfer of drugs, and resuscitation of the newborn. Not scheduled through elective lottery. Contact Department of Anesthesia, extension 63234, to schedule. ANESTHESIA

140.05. Advanced Clerkship in Ambulatory Anesthesia. (1.5 per week) F, W, Sp. Prerequisite: Anesthesia 110. Course must be taken concurrently with 140.04 to create a four-week advanced anesthesia rotation.
Bogetz
Students will gain familiarity with the operation of an ambulatory surgery unit, patient and procedure selection, psychological preparation of children for surgery, anesthesia techniques for ambulatory surgery, sedation and analgesia for regional anesthesia, and assessment of recovery and discharge criteria. Not scheduled through elective lottery. Contact Department of Anesthesia, extension 63234, to schedule.
ANESTHESIA

150.01. Research in Anesthesia. (1.5 per week) Su, F, W, Sp. Prerequisite: Anesthesia 110.
Eger
Students conduct research projects under guidance of faculty members. Projects must be approved by instructor involved in supervising student. Students may initiate or become involved in established research programs under faculty guidance. Requires approval of the Dean and Department. ANESTHESIA

160.01. Basic CPR. (0.5) F, W, Sp. Lecture 1 hour. Lab 2 hours.
Cohen, Cahalan, Strong
Two-week CPR skills course training students in basic life support kills; cardiac compression and ventilation, management of airway obstruction, and assessment of need to initiate or terminate CPR. Sessions include presentations by Anesthesiology faculty and skills practice for students.
ANESTHESIA

178. General Anesthesiology. (6) Sp. Prerequisite: Interns and residents. Clinic.
Hamilton and Staff
Course covers the systemic effects of the various muscle relaxants, sedatives, and stimulants and the administration of general anesthetic agents.
ANESTHESIA

199. Laboratory Project. (1-5) Su, F, W, Sp.
Eger
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. ANESTHESIA

400. Anesthesia Staff Conference. (2) F, W, Sp.
R. D. Miller
Course includes didactic lectures in sciences basic to the specialty of anesthesia, as well as case reviews, clinical discussions, and seminars on current medical literature in anesthesia. ANESTHESIA

450. Anesthesia Clinical Work. (1.5 per week) Su, F, W, Sp. Required during first year of residency, and during either second or third year.
R. D. Miller
Residents are responsible for anesthetic care and management of patients in the operating rooms and outpatient departments, under immediate supervision of the staff. Preoperative and postoperative evaluation of patients, oxygen therapy, and resuscitation are covered. ANESTHESIA

460. Special Assignment. (1.5 per week) Su, F, W, Sp. Elective for residents during either second or third year.
UC **Eger**

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

Anthropology

200. Off-Campus Study. (0) § F, W, Sp. Prerequisite: Approval of the graduate adviser. Open only to students enrolled in the graduate program in Medical Anthropology.
Staff
Full-time graduate study in the Medical Anthropology program through the intercampus exchange or consortium program. EPID & BIOSTAT

205A-B. Intro to Sociocultural Aspects. (3-4, 3-4) § F, W. Prerequisite: Intended primarily for doctoral students in medical anthropology, and others at graduate standing with consent of instructor. Lecture 3 hours, plus 3 hours independent study for 4 units. Required for and open only to first-year students in the UCSF Ph.D. Program in Medical Anthropology. Two-quarter course.
M. Clark, Justice
Seminar in the history and theory of social anthropology as applied to problems of health and illness. Major concepts and problems will be illustrated through critical review of selected research literature. EPID & BIOSTAT

206A-B. Intro to Biomedical Anthropology. (3-4, 3-4) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours, plus 3 hours independent study for 4 units. Open only to first-year students in the intercampus Program in Medical Anthropology. Required for students in the UCSF Ph.D. Program in Medical Anthropology.
F. Dunn, Staff
Survey of the biocultural areas of medical anthropology; anthropology in relationship to biomedicine and human biology. EPID & BIOSTAT

211A-B-C. Research Training Seminar. (3-4, 3-6, 3-6) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours, plus 3 hours independent study for 4 units. Required for and open only to second-year students in the intercampus Ph.D. Program in Medical Anthropology.
Ablon, Mitteness
Fundamentals of anthropological research design and methods through lectures, readings and field assignments. EPID & BIOSTAT

212A-B-C. Research Apprenticeship. (2-5, 2-5, 2-5) § F, W, Sp. Prerequisite: Consent of instructor. Lab 6-15 hours.
Staff
Students work with individual faculty members in ongoing research projects. Each student will work on supervised data collection and analytical tasks, and a broader range of research activities, such as problem formulation, grant preparation, sampling, and research design and execution. EPID & BIOSTAT

215. Life History Methods. (2-3) § F, W, Sp. Seminar 2-3 hours.
Ablon
Review of theoretical and methodological literature on anthropological life histories and the uses of life history materials. Classic life histories and newer works will be read and examined for the methodologies and analyses utilized. EPID & BIOSTAT

216. Research Design. (3) § F, W. Lecture 2 hours. Lab 3 hours.
Nydegger
Workshop format, utilizing student research interests. Topics include model building; problem formulation; design of research strategies; evaluation of sampling methods; operationalization of concepts; special problems for qualitative data. Course is preparatory for anthropological statistics. EPID & BIOSTAT

217. Statistics. (2) § F, W, Sp. Lecture 2 hours. Lab 3 hours.
Mitteness
Introduction to statistical methods for the social sciences: measurement, selected data characteristics, probability theory, statistical models, descriptive statistics, the general linear model, analysis of qualitative data. Emphasis is on understanding fundamental assumptions and procedures of statistical methods relevant to anthropology. EPID & BIOSTAT

218. Computer Methods. (3-4) § Sp. Lecture 3 hours. Lab 0-3 hours.
Staff
An introduction to data processing methods most commonly used by medical anthropologists. Topics covered in lecture and laboratory demonstrations include: how a computer works, data form design, keypunching, use of SPSS and HMD program packages and interpretation of computer output. EPID & BIOSTAT

220. Departmental Seminar. (0) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.
Staff
Students, staff, or guest lecturers present selected topics based on their current work. EPID & BIOSTAT

221A-B. History & Theory of Anthropology. (3-3) § F, W. Prerequisite: Consent of instructor. Generally limited to students in anthropology. Lecture 3 hours.
Staff
A review of the history and development of anthropology and its major theoretical approaches. Lectures, discussion, and readings focus on major issues, trends, personalities, and present concerns in the field. EPID & BIOSTAT

225. Contemporary Issues. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 or 6 hours independent study for 3 or 4 units.
M. Clark
Introduction to selected controversies and current issues in medical anthropology, including sociology; sociocultural impact of high technology medicine; abortion, euthanasia and the right to life; status of research on the etiology of mental disorders; advocacy, praxis and the social scientist. EPID & BIOSTAT

226. Stigmatized Health Conditions. (2-3) § F, W, or Sp. Lecture 2-3 hours.
Ablon
Examination of social attributes of stigma to such conditions as deafness, alcoholism, obesity, dwarfism, mental and physical disabilities. Self-help groups organized around such conditions will be examined. Guest speakers who have experienced these conditions will contribute to the course. EPID & BIOSTAT

227. Community Resources for Health & Mental Health. (3-4) § Sp. Seminar 2-3 hours. Variable field observations.
Ablon
This course will survey the range and categories of indigenous community resources for health and mental health. Informal and formal community organizations, therapeutic self-help groups, voluntary associations, and alternative healing modalities will be analyzed for their functions as health and mental health resources. EPID & BIOSTAT

230. Culture & Personality. (2-3) § F. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units.
Kiefer
Exploration of the relationship between culturally conditioned ways of perceiving, thinking, and communicating, and individual behavior and personality development. Application of cultural and personality findings in medical and nursing settings. EPID & BIOSTAT

231. Ethnopsychiatry. (2-3) § F, W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units.
M. Clark, Hartog
Course examines principles of healing systems in the treatment of mental disorder including folk healing, cross-cultural comparisons, research methods, and implications for community psychiatry. Students study local examples of folk healers or folk healing institutions. EPID & BIOSTAT

233. Anthropology of Aging. (2-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus research project for 3 units.
Keifer
Cross-cultural approaches to roles, statuses, and problems of aged populations. Cultural factors influencing the condition and adaptation of the aged in American society. Topics to be covered include cultural attitudes and values, social relationships, and health problems. EPID & BIOSTAT

234. Culture & Symbolic Systems. (2-3) § F. Prerequisite: Anthropology 230A or equivalent, or consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units.
Staff
Symbolic expressive behavior is considered from psychocultural life-cycle and psychoanalytic perspectives. Various projective systems are analyzed: psychological tests, dreams, folklore, myths, religious rituals, altered states of consciousness, and healing procedures. EPID & BIOSTAT

235. Cross-Cultural Aspects of Childhood. (3) § F. Prerequisite: Consent of instructor. Open to students in medicine, nursing and graduate departments. Lecture 2 hours, plus research paper.
Mitteness, Barker
Review of child development, child rearing and family dynamics in various non-Western cultures and in selected ethnic subcultures of the United States; from historical, psychological, and anthropological perspectives. EPID & BIOSTAT

239. Comparative Family Systems. (3) § F, W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study.
Ablon
Anthropological approaches to family study. Structure and dynamics of varying family systems examined, emphasizing changing family forms and ways family life style and values contribute to modes of coping with stress, illness, and crises. EPID & BIOSTAT

245. Development in Late Adulthood. (3) § F, W, Sp. Lecture 2 hours. Lab 3 hours.
Kayser-Jones
Course covers developmental theory and research in aging. Emphasis is on anthropological and sociological studies, but biological and psychological perspectives are included. Current issues in aging with emphasis on implications for health care are discussed. EPID & BIOSTAT

246. Comparative Medical Systems. (2-3) § Sp. Prerequisite: Consent of instructor. Lecture 2-3 hours.
Staff
Popular medicine in the Third World with emphasis on how people use indigenous and biomedical health care resources. Theories of health and disease, social and symbolic dimensions of healing, and relevance of traditional medicine for health maintenance and primary health care. EPID & BIOSTAT

247. Contemporary American Society. (3) § F, W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study.
Ablon
A review of anthropologically oriented research on basic American values, social organization, and ethnicity. Emphasis is on socio-economic diversity and changing institutions, values, and life styles. EPID & BIOSTAT

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 faculty.

Students may select areas related to their long-term interest and future research program. EPID & BIOSTAT

249. Directed Reading. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Independent study. EPID & BIOSTAT

250. Research. (1-8) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
EPID & BIOSTAT

251. Social Gerontology. (2-4) § W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 or 6 hours independent study for 3 or 4 units.
Staff
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. EPID & BIOSTAT

252. Culture & Health Policy. (3) § F, W, Sp. Seminar 3 hours.
Justice
Combining the perspectives of anthropology and health policy, the course will examine the effect of culturally-linked beliefs and values on utilization of health services and the impact of health policies on medical care in the United States and other countries. EPID & BIOSTAT

253. Late Life Family. (3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.
C. Johnson, L. Troll
A review of research on the late-life family with a critical analysis of the conceptual and methodological issues guiding research. Interpretations of the caregiving and social support literature will be associated with social, cultural, and psychological theories on the family. EPID & BIOSTAT

260. Epidemiology & Med Anthro. (2-4) § Sp. Prerequisite: Training in epidemiology and consent of instructor. Lecture 2 hours plus 3 or 6 hours independent study for 3 or 4 units.
F. Dunn, Janes
Individual or small group directed reading and discussion of epidemiological and medical ecological perspectives, methods, and findings relevant to the field of medical anthropology. EPID & BIOSTAT

297. Special Study. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Independent study. EPID & BIOSTAT

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

Biochemistry

100. Human Metabolism. (5) W. Prerequisite: Interdepartmental Studies 100: Cell and Tissue Biology or consent of instructor. Lecture 4 hours. Conference 2 hours.
Colby
Lectures and conferences in the metabolism of carbohydrates, lipids, amino acids, and nucleotides, with emphasis on physiologic regulation. Primarily for medical students. BIOCHEM

110A-B. Cellular Structure & Function. (4-4) § F, W. Lecture 4 hours.
Colby, Michaeli
Lectures in biochemistry include aspects of cell physiology and cellular ultrastructure, with emphasis in the area of connective and mineralizing tissues. Fundamental knowledge is presented in the context of its applicability to clinical health sciences. Primarily for dental students. BIOCHEM

112A-B. Cellular Structure & Function. (4-4) F, W. Lecture 4 hours. Conference 1 hour.
Michaeli, Benson
Lectures and conferences in biochemistry including aspects of cell physiology and cellular ultrastructure, with some emphasis in the area of drug metabolism. BIOCHEM

150.01. Research in Biochemistry. (1.5 per week) F, W, Sp. Prerequisite: Consent of instructor.
Staff
Research in biochemistry. BIOCHEM

170.01. Molecular Biology of Medicine. (1-2) W. Prerequisite: Consent of instructor. Seminar 2 hours.
Colby
Seminar on molecular and cell biological approaches to disease processes. BIOCHEM

198. Supervised Study. (1-5) § Su, F, W, Sp.
Colby
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. BIOCHEM

199. Laboratory Project. (1-5) § Su, F, W, Sp. Prerequisite: Consent of instructor.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. BIOCHEM

200A. Structure of Macromolecules. (3) § Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology. Lecture 3 hours.
Agard
Fundamental principles governing the behavior of, and modern techniques for study of biological macromolecules. Topics covered include thermodynamics (entropy, equilibrium, cooperative interactions). Kinetics and catalysis: structure and function of macro-molecules—DNA, membranes, proteins by

X-ray and electron optics. Kinetics and structure of cooperative enzymes and systems of biological control. BIOCHEM

200C. Chromosome Structure & Function. (1.5) § Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology are recommended. Lecture 3 hours for one-half quarter.
Sedat
Structure and function of chromosomes in eukaryotes will be discussed in depth, beginning with basic underlying experiments and leading to the most recent proposals for structure. Emphasizes both theoretical and experimental approaches to this area of cell and molecular biology. BIOCHEM

200E. Enzymology. (3) § F. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology, or consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1990-91.
Santi, Kenyon
Biochemically important chemical transformations from the physical organic point of view, emphasizing catalytic mechanisms pertinent to enzyme reactions, and to the development of enzyme model systems. Intermolecular forces and enzyme substrate interactions. Techniques of investigating enzyme mechanisms and kinetics. BIOCHEM

201A-B. Biological Regulatory Mechanisms. (3, 1.5) § F, W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry and an advanced course in biology. Lecture 3 hours.
Yamamoto
Discussion of the discovery of principles forming the foundation of molecular biology and recent advances in rapidly developing areas of the field. Topics covered include RNA transcription, protein translation, DNA replication, control mechanisms, and genome structure and organization.
BIOCHEM

210. Special Topics. (0-5) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-5 hours.
Staff
Discussion of selected areas in biochemistry, biophysics, and biomathematics. BIOCHEM

215. Laboratory Rotation. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lab 9 hours.
C. Guthrie
A laboratory rotation course to familiarize new departmental graduate students with various approaches to biochemical and biophysical research. BIOCHEM

220. Selected Topics. (0) § F, W, Sp. Lecture 1 hour.
Alberts
Lectures and discussion on topics of current interest in biochemistry and biophysics. BIOCHEM

221. Selected Topics. (0-1) § F, W, Sp. Lecture 1 hour.
Staff
Presentations of selected topics in biochemistry by graduate students in the Department of Biochemistry. BIOCHEM

242. Protein Crystallography. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Offered in alternate years. Offered 1990-91.
Stroud
Principles of X-ray crystallography applicable to protein structure analysis will be presented in a course oriented toward research level understanding of the field. Course will involve group participation and some experimental work. BIOCHEM

246. Cell & Developmental Biology. (3) § Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology are recommended. Lecture 3 hours.
Kirschner, G. Martin
Modern aspects of cell biology and development with emphasis on structure-function relationships and multicellular organization. BIOCHEM

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

297. Special Study. (1-3) § F, W, Sp.
Staff
Reading and conferences for properly qualified students under the direction of a member of the staff. BIOCHEM

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

Bioengineering

190. Diff Equations for Biomed Use. (3) § F. Prerequisite: Introductory calculus. Lecture 3 hours.
Glantz
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 origins of exponential, natural logarithm, sine and cosine functions; eigenvalues, time constants, and half-times.

192. Laplace & Fourier Transforms. (3) § W. Prerequisite: Bioengineering 190 or equivalent. Lecture 3 hours.
Glantz
Course covers Laplace transform and numerical solutions of differential equations; Fourier transform and spectral analysis of biological signals; impulse, step, and frequency response; introduction to curve fitting; examples from pharmacokinetics and common laboratory instrumentation.

198. Supervised Study. (1-5) § F, W, Sp. Prerequisite: Consent of instructor and academic adviser.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department.

200. Off-Campus Study. (0) § F, W, Sp.
Baumrind
Full-time study in bioengineering at another location through the UCSF/UCB Graduate Group in Bioengineering.

210. Radioactivity Applications. (3) § Sp. Lecture 3 hours.
Perez-Mendez
Basic physics of radioactivity and alpha, beta, gamma, and fission processes. Interactions of radiation with matter, basic radiation detectors for counting and determining energies of charged particles, neutrons, and gammas. Counting statistics and radiation protection. Applications in biology, chemistry, engineering.

220. Bioengineering Seminar. (1) § F. Seminar 2 hours.
Baumrind, Bhatnagar
Presentation and discussion of student and faculty research in progress.

221. Orthopaedic Mechanics & Materials. (2) § W. Lecture 2 hours.
Skinner
This course is intended to introduce the student to the mechanics of several joints in the human body, to acquaint the student with common biomaterials (and their properties) used in orthopaedics, and to discuss these uses with respect to joint mechanics and joint displacement.

249. Group Studies. (1-8) § F, W, Sp. Prerequisite: Graduate standing.
Staff
Advanced study in various subjects through seminars on topics to be selected each year, informal group studies of special problems, group participation in comprehensive design problems, or group research on complete problems for analysis and experimentation.

230A. Physics of Medical X-ray Imaging. (3) § F Prerequisite: Baccalaureate degree in engineering or a physical science, differential equations, Fourier analysis, or consent of instructor. Lecture 3 hours.
Hasegawa, Cann, Gould
Basic interactions of photons and particles with matter; detectors and detector electronics; radiation quantity and quality, contrast, spatial resolution, noise, and image perception; radiation protection.

230B. Physics of Medical X-ray Imaging. (3) § W. Prerequisite: First quarter course in Physics of Medical X-ray Imaging or equivalent, or consent of instructor.
Hasegawa, Cann, Gould
X-ray production, x-ray scatter and scatter production, video imaging, image intensifiers, linear tomography, computed tomography, xeroradiography, digital subtraction angiography, photostimulatable phosphor technology, dual-energy imaging techniques, bone-mineral densitometry, and quantitation of vascular flow.

250. Research. (1-8) § F, W, Sp. Prerequisite: Graduate standing.
Staff

280. Clin Aspects of Bioengineering. (2) § Sp. Prerequisite: Consent of instructor. Lecture 1.5 hours. Lab 1.5 hours.
Litt
Aspects of bioengineering will be explored within the context of clinical realities. Important clinical issues relevant to bioengineering will be reviewed to help the student appreciate the potentials and pitfalls of contemporary technologies. The course will convene each week for one and one-half hours of lecture, and one and one-half hours of clinical and laboratory experience. Throughout the course there will be contact with scientists, physicians, nurses, technicians, and patients. The course will familiarize bioengineering students with clinical activities at UCSF and teach them to rapidly identify important medical issues that require advanced bioengineering support.

297. Special Study. (1-8) § Su, F, W, Sp.
Staff
Reading and conferences for properly qualified students under the direction of a member of the staff.

298. Thesis. (0) § Su, 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.

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

Biomaterials

156. Dental Materials Survey. (1) Sp. Lecture 1 hour. Lab 1 hour.
Bertolotti
An introduction for the dental hygienist to the basic concepts associated with selected dental materials. Emphasis is placed on the use and manipulation of materials commonly used in the practice of dentistry. RESTOR DENT

Biomathematics

180. Algebra & Calculus for Biomed. (3) § Su. Prerequisite: Consent of instructor.
Licko

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

190. Biolog Modeling through Diff Eqn. (3) § F. Prerequisite: Biomathematics 180 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 analog, digital, and analytic techniques. Applications to selected problems in compartmental analysis, enzyme and drug kinetics, and metabolic and biological control dynamics.

214. Endocrine Dynamics. (3) § W. Prerequisite: Biomathematics 193A-B-C or equivalents, or consent of instructor.
Licko
Review of relevant parts of compartmental and tracer analysis and control theory. Analysis of dynamics of secretory process, distribution, binding and metabolism of hormones, and hormonal control. Differential equations and both analog and digital computers are utilized throughout the course.

Biophysics

The Graduate Group in Biophysics is an interdisciplinary group offering a Ph.D. in Biophysics. For details, refer to the *Graduate Studies* bulletin.

200. Off-Campus Study. (0) § W. Prerequisite: Approval of the graduate adviser. Open only to students enrolled in the graduate program in Biophysics.
Staff
Full-time graduate study in the biophysics program through the intercampus exchange or consortium program.

201. Cellular Biophysics. (3) § F. Prerequisite: Biochemistry 200A. Lecture 3 hours.
Cooke, Papahadjopoulos, Rothman
Topics covered: membrane structure and dynamics; transport and permeability; cellular motion and muscle contraction; cell energetics; DNA replication and information transfer; cell cycles.

203. Mending Human Genes. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours.
Cleaver
Introduction to eukaryotic DNA repair mechanisms. Emphasis is on cells damaged by UV light, ionizing radiation, and chemical carcinogens. The genes involved in regulating repair in various inherited diseases involving mutagenesis, carcinogenesis, and aging will be described.

207A. Image Cytometry: Theory, Methods & Applications. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
Mayall, Chew
Introduction to quantitative microscopy, electronic imaging; digital image processing; feature extraction; measurement of individual objects; statistical analysis and validation of data; research and clinical applications of image cytometry.

207B. Image Cytometry: Theory, Methods & Applications. (3) § Sp. Prerequisite: Successful completion of 207A. Lab.
Mayall, Chew
One-week practicum to introduce image cytometric systems of Laboratory for Cell Analysis (CAS 100, TAS Plus, QUIPS). Students will complete a small project in which they apply image cytometry to a problem of biological or clinical relevance.

210. Radiation Biophysics. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.
Fike, Morgan
Interaction of electromagnetic radiation with matter; radiation chemistry; molecular lesions induced by radiation; damage and repair in mammalian cells; interaction of radiation and other agents in mammalian cells and tissue.

212. Advanced Topics in Radiation Biophysics. (3) § W. Prerequisite: Biophysics 210 or consent of instructor. Lecture 3 hours.
Deen
Current topics in radiation physics, radiation chemistry, and radiation biology. Lecturers will be mainly scientists from the Bay Area with ongoing research programs. Lecturers will assume student familiarity with information covered in Biophysics 210.

215. Laboratory Rotation. (3) § Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 9 hours.
Deen
A laboratory rotation course to acquaint first-year Biophysics students with the various approaches to biophysical research. Students will rotate through 3-4 labs.

220. Biophysics Seminar. (1) § F, W, Sp. Lecture 1.5 hours weekly.
Mendelson
Guest lecturers and reports of research by faculty and students of the Graduate Group in Biophysics.

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

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

See also: Biochemistry 200A, Chemistry 260, Biostatistics 183

Biostatistics

171. Introduction to Linear Algebra. (3) § F. Prerequisite: One year of college-level mathematics. Lecture 3 hours. Offered in alternate years: Not offered 1990-91
Beal
This course provides a general introduction to linear algebra. The main topics to be covered are: linear equations, matrices, vector spaces, linear transformations, determinants, eigenvalues and eigenvectors. Understanding of the contents of theorems will be emphasized; understanding of proofs will not be emphasized. The course can be helpful to people planning to take courses in linear statistical methods or applied linear mathematical methods, as well as provide information useful for many advanced courses in mathematics. EPID & BIOSTAT

183. Intro to Statistical Methods. (4) § Su, Sp. Lecture 4 hours.
Hoffman, Glantz
Course stresses application of methods, including analysis of variance, simple linear regression, simple chi-square tests, and parametric techniques. Intended for those who may need to use statistics in their work. EPID & BIOSTAT

185A. Intro to Probability & Statistics. (4) § W. Prerequisite: Working knowledge of algebra. Lecture 3 hours, Lab 2 hours.
Paul
Biostatistics 185A and 185B are conceptually oriented introductory courses that prepare the students for 200-level course work. Topics covered include roles of statistical ideas and methods, descriptive statistics, probability, random variables, sampling, estimation, confidence intervals, and hypothesis testing, primarily concerning population means. EPID & BIOSTAT

185B. Probability & Statistics. (4) § Sp. Prerequisite: Completion of Biostatistics 185A. Lecture 3 hours, Lab 2 hours.
Paul
Continuation of Biostatistics 185A. Course covers one- and two-factor analysis of variance, linear regression analysis with one and two independent variables, elementary nonparametric methods, simple chi-square tests, and other topics. EPID & BIOSTAT

187. Statistical Theory & Practice. (5) § F. Prerequisite: Previous course in introductory statistics. Lecture 4 hours. Lab 2 hours.
Paul
Review of basic statistical theory, sampling, descriptive statistics, and probability. Presentation of confidence intervals, hypothesis testing, one- and two-factor analysis of variance, correlation, simple linear regression, and chi-square tests. A preparation for more advanced work. EPID & BIOSTAT

191. Clinical Trials & Life Tables. (3) § Sp. Prerequisite: Biostatistics 183 or equivalent or permission of the instructor. Lecture 3 hours. Offered in alternate years: Offered 1990-91.
Hauck
Will cover the design, operation, and analysis of clinical trials. Specific topics will include: basic trial designs, methods for treatment assignment, sample size determination, methods for the analysis of life tables. EPID & BIOSTAT

197. Selected Topics. (2 or 3) § F, W, Sp. Lecture 2 or 3 hours, lab 0 or 3 hours.
Staff
Course will cover topics such as nonparametric methods, regression, and analysis of variance, and analysis of discrete data. EPID & BIOSTAT

198. Supervised Study. (1-5) § Su, F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. EPID & BIOSTAT

201. Analysis of Qualitative Data. (3) § F. Prerequisite: Biostatistics 185A-B or Biostatistics 187 or permission of instructor. Lecture 3 hours.
Hauck
Course will focus on data analysis of studies in which summary statistics are rates and proportions. Topics include sample size, measures of association, chi-square tests, methods for matched and stratified data, and introduction to multivariate methods(log-linear and logit analyses). EPID & BIOSTAT

205. Multivariate Methods for Discrete Data. (2) § Prerequisite: Biostatistics 185A/B or Biostatistics 187 or permission of instructor; familiarity with chi-square tests and linear regression. Lecture 2 hours.
Neuhaus, Hauck
Course covers multivariate methods for analysis of discrete data. The major topics will be logistic regression and log-linear analysis. Other topics such as models for ordinal data will be covered given sufficient time and interest. Emphasis will be on appropriate use of methods and interpretation of results. EPID & BIOSTAT

210A. Regression Analysis & ANOVA. (4) § W. Prerequisite: Biostatistics 185A-B or Biostatistics 187 or equivalent. Lecture 3 hours. Lab 3 hours.
Segal
Course covers the uses of multivariable regression techniques, focusing on the choice of technique and interpretation of results rather than on mathematical development of the methods. Design of experiments is stressed with appropriate emphasis on power analysis. EPID & BIOSTAT

210B. Regression Analysis & ANOVA. (4) § Sp. Prerequisite: Biostatistics 185A-B, Biostatistics 210A or Biostatistics 187 or equivalent. Lecture 3 hours. Lab 3 hours.
Segal
This course continues the material and approach of Biostatistics 210A. Topics include analysis of variance and covariance (primarily from a regression standpoint), repeated measures analysis of variance. EPID & BIOSTAT

213. Multivariate Methods. (4) § F. Prerequisite: Biostatistics 210A and 210B or equivalent. Lecture 3 hours. Lab 3 hours. Offered in alternate years: Not offered 1990-91.
Neuhaus
Course covers classical multivariate methods such as canonical correlation, multivariate analysis of variance, principal components, and discriminant analysis. Emphasis is on application and interpretation of these procedures with real data. EPID & BIOSTAT

225. Selected Topics. (2 or 3) § F, W, Sp. Lecture 2 or 3 hours. Lab 0 or 3 hours.
Staff
Course will cover topics such as statistical methods for failure time data, time series, or repeated measures. EPID & BIOSTAT

250. Research. (1-8) § F, W, Sp.
Staff
EPID & BIOSTAT

297. Special Study. (1-3) § F, W, Sp. Conference 1-3 hours.
Staff
Reading and conferences for qualified students under the direction of a member of the staff. EPID & BIOSTAT

Cell Biology

210. Selected Topics in Cell Biology. (2) § Su, F, W, Sp. Prerequisite: Cell Biology 245. Lecture 2 hours.
Staff
Selected topics in cell biology will be discussed: a tutorial format, with student presentation of papers. The goals are an in-depth study of one area of cell biology, and critical reading of the scientific literature. BIOCHEM

212. Selected Readings in Cell Biology. (2) § W. Prerequisite: Previous or concurrent enrollment in Cell Biology 245, and consent of instructor.
Walter
Tutorials with a maximum of eight students per class. Each week all students will read one paper and be individually responsible for another paper or group of papers. The papers will address current issues in cell biology. BIOCHEM

215. Laboratory Rotation. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lab 9 hours.
Staff
A laboratory rotation course to familiarize new departmental graduate students with various approaches to cell biology research. BIOCHEM

245. Cell and Developmental Biology. (3) § W. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology are highly desirable. Lecture 3 hours.
Walter
Modern aspects of the biochemical basis of cell biology and development will be examined with emphasis on spatial organization and morphogenesis. BIOCHEM

247. Specialized Topics in Cell Biology. (2) § F, W, Sp. Prerequisite: Cell Biology 245. Lecture 2 hours.
Staff
Topics in Cell Biology will be discussed: a tutorial format, with student presentation of papers. The goals are an in-depth study of one area of cell biology, and critical reading of the scientific literature BIOCHEM

250. Research. (1-8) § SS1, SS2, Su, F, W, Sp. Prerequisite: Consent of instructor.
Staff
BIOCHEM

Chemistry

112. Intro to Organic Chemistry. (0) F, W, Sp. Prerequisite: Completion of 8 units of organic chemistry. Lecture 1 hour. Lab 4 hours.
Craig
Survey of basic organic chemistry—structure and reactivity: an introductory study of the nomenclature, stereochemistry, spectroscopy, and reactions of the major organic compounds of carbon, including aromatic compounds. PHARM CHEM

113. Organic Chemistry. (3) F, Sp. Prerequisite: Chemistry 112 or passing grade in the Chemistry 112 equivalency examination. Lecture 3 hours.
Ketcham, Craig
A continuation of the study of compounds of carbon including some aromatic, hydro-aromatic, and heterocyclic compounds. PHARM CHEM

115. Physical Chemistry. (5) F. Prerequisite: Chemistry 5 or equivalent laboratory course in quantitative analysis and differential and integral calculus. Lecture 4 hours. Conference and demonstration 3 hours.
Kuntz
Elementary physical chemistry with emphasis on thermodynamics. PHARM CHEM

116. Physical Chemistry. (2) W. Prerequisite: Chemistry 115 or equivalent. Lecture 1.5 hours. Conference and demonstration 1.5 hours.
T. James
Elementary physical chemistry with emphasis on chemical kinetics. PHARM CHEM

117. Organic Chemistry Laboratory. (2) Sp. Prerequisite: Chemistry 112 or passing score in Chemistry 112 equivalency examination, Chemistry 113 or concurrent enrollment in Chemistry 113, or consent of instructor. Lecture 1 hour. Lab 4 hours.
Ketcham

Laboratory experiments in identification and quantification of organic substances. PHARM CHEM

151. Physical Chemistry. (1-3) Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours.
Kuntz
Selected topics at an introductory level, which vary from year to year. Past topics included structure of nucleic acid and proteins, quantum chemistry, and spectroscopy. PHARM CHEM

158. Physical Chemistry Laboratory. (1) Sp. Prerequisite: Chemistry 115 and 116. Lab 3 hours.
Kuntz
Laboratory exercises in spectroscopy. PHARM CHEM

165. Organic Chem-Analytical Meth. (4) § F. Prerequisite: Chemistry 113. Lecture 1 hour. Lab 9 hours.
Kahl
A study of the reactions of organic compounds by applying a system of qualitative analyses to the determination of characteristic groups. PHARM CHEM

170. Group Studies Course. (1-4) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-4 hours.
Cashman
Group studies in selected topics in chemistry. PHARM CHEM

198. Supervised Study. (1-5) F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. PHARM CHEM

199. Laboratory Project. (1-5) F, W, Sp.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. PHARM CHEM

202. Advanced Organic Chemistry. (3) § F. Prerequisite: Chemistry 113, 116, and 165 or equivalent. Lecture 3 hours.
Oppenheimer
A study of the detailed processes associated with organic reactions. PHARM CHEM

203. Applied Kinetics. (3) § Sp. Prerequisite: A course in advanced organic chemistry or consent of instructor. Lecture 3 hours.
Cashman, Santi, Falick.
The course will consist of one unit of basic chemistry kinetics, one unit of organic chemical kinetics, and one unit of enzyme kinetics. PHARM CHEM

205. Advances in Synthetic Methods. (2) § F. Chemistry 113 and 165 or equivalent. Lecture 2 hours.
J. Craig
Recent advances in synthetic methods, comprising specific oxidizing agents, specific reducing agents, and other specific reagents. PHARM CHEM

208. Advanced Organic Chemistry. (3) § Sp. Prerequisite: Chemistry 113 and 165 or equivalent. Lecture 3 hours.
Craig, Whitney
Terpenes and steroids. Occurrence, chemistry, stereochemistry and structure function relationships of natural products such as carotenoids, fat-soluble vitamins and steroids, and their precursors. PHARM CHEM

209. Chemistry of Heterocyclics. (3) § Sp. Prerequisite: Chemistry 113 and 165 or equivalent. Lecture 3 hours.
J. Craig, Kenyon
A survey of the main nitrogen, oxygen, and sulfur-containing heterocycles. PHARM CHEM

260. Advanced Physical Chemistry. (4) § W. Prerequisite: Two quarters of physical chemistry or consent of instructor. Lecture 4 hours.
Kuntz
Molecular thermodynamics. PHARM CHEM

262. Advanced Physical Chemistry. (4) § F. Prerequisite: Chemistry 151 or equivalent. Knowledge of differential equations recommended. Lecture 4 hours.
Kollman
Quantum mechanics and applications to molecular problems. PHARM CHEM

263. Biophysical Chemistry. (3) § Sp. Prerequisite: Chemistry 260 or consent of instructor. Lecture 3 hours.
Shafer
Basic principles of biophysical chemistry. Properties of biomolecules and macromolecules, and physical principles of experimental methods including scattering, hydrodynamics, sedimentation, gels, chromatography. PHARM CHEM

264. Advanced Statistical Mechanics & Molecular Mechanics. (2) §. Sp. Prerequisite: Chemistry 260 or consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1990-91.
Kollman
Advanced aspects of statistical mechanics and molecular mechanics; topics covered vary from year to year. PHARM CHEM

Clinical Dentistry

409. Clinical Dentistry. (0-10) F, W, Sp. Clinic 0-30 hours.
Staff
Responsibility for patient dental care in the wards and comprehensive clinic under the direction of the attending staff. Dental consultations and treatment are coordinated with medical care. Residents take histories and perform physical examinations, laboratory tests, and dental treatment. STOMATOL

Clinical Pharmacy

110. Orientation. (2) F. Conference and field observation 3-4 hours.
R. Levin
An introduction to the scope of pharmaceutical practice including field trips to and participation in various settings where the pharmacist and patient interact. CL PHARM

130. Therapeutics. (6) F. Prerequisite: Successful completion of all required first- and second-year courses or consent of instructor. Lecture 5 hours. Conference 2 hours.
Koo, Kapusnik
Orientation to selected areas of medical practice, the clinical evaluation and comparison of drugs used in these areas, and the bio-pharmaceutics of drug combinations and products. CL PHARM

131. Therapeutics. (6) W. Prerequisite: Clinical Pharmacy 130 or consent of instructor. Lecture 5 hours. Conference 2 hours.
L. Hart, A. F. Wong
Continuation of Clinical Pharmacy 130. CL PHARM

132. Therapeutics. (7) Sp. Prerequisite: Clinical Pharmacy 131 or consent of instructor. Lecture 6 hours. Conference 2 hours.
Dong, Stagg
Continuation of Clinical Pharmacy 131. CL PHARM

133. Nutrition. (3) Sp. Prerequisite: Third-year standing. Lecture 3 hours.
McSweeney
Clinical aspects of nutrition in ambulatory and institutional practice with emphasis on special needs of different populations. Nutritional supplements, enteral and parenteral products will be discussed as they apply to these populations. CL PHARM

134. Topics in Pharmacy Administration. (2) Sp. Prerequisite: Third- or fourth-year standing. Lecture 2 hours.
Kishi
Survey of major world health problems, 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 administration. CL PHARM

135A. Drug Information Orientation. (1.5) Su, F, W, Sp. Prerequisite: Third-year standing. Concurrent or subsequent enrollment in Clinical Pharmacy 130, 131 or 132.
L. Hart
Orientation to clinical services including patient interview techniques and monitoring; training and actual experience in literature retrieval, analysis and dissemination of drug information. CL PHARM

135B. Drug Information Orientation. (0.5) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 135A.
L.Hart
Continuation of Clinical Pharmacy 135A. CL PHARM

148A. Inpatient Clinical Clerkship. (9) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination. Clinic 40 hours per week for six weeks.
Flaherty and 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, and research patients' specific drug information questions. CL PHARM

148B. Inpatient Clinical Clerkship. (9) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A. Clinic 40 hours per week for six weeks.
Flaherty and Staff
Continuation of Clinical Pharmacy 148A. CL PHARM

148.01A. Inpatient Clerkship–UCSD. (9) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination. Clinic 40 hours per week for six weeks.
Adler and 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, and research patients' specific drug information questions. CL PHARM

148.01B. Inpatient Clerkship–UCSD. (9) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 148A. Clinic 40 hours per week for six weeks.
Adler and Staff
Continuation of Clinical Pharmacy 148.01A or Clinical Pharmacy 148A. CL PHARM

148.02A. Inpatient Clerkship–UCI & MHLB. (9) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination.
Shimomura and Staff
Supervised clinical pharmacy experience in an inpatient setting. Students will develop and explore their roles in an interdisciplinary health care team, take medication histories, monitor drug therapy, provide patient education, and research patients' specific drug information questions. CL PHARM

148.02B. Inpatient Clerkship–UCI & MHLB. (9) F, W, Sp. Prerequisite: Clinical Pharmacy 148.02A.
Shimomura and Staff
Continuation of Clinical Pharmacy 148.02A. CL PHARM

148.03A. Inpatient Clinical Clerkship–UCD. (9) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work and the comprehensive examination. Clinic 40 hours per week for 6 weeks.
Sauer and Staff
Supervised clinical pharmacy experience in an inpatient setting. Students will develop and explore their roles in an interdisciplinary health care team, take medication histories, monitor drug therapy, provide patient education, and research patient-specific drug information questions. CL PHARM

148.03B. Inpatient Clinical Clerkship–UCD. (9) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148.03A. Clinic 40 hours per week for 6 weeks.
Sauer and Staff
A continuation of Clinical Pharmacy 148.03A. CL PHARM

149. Ambulatory Externship/Clerkship. (13) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination.
A. Leeds and Staff
Supervised clinical experience in an outpatient setting. Students develop and explore their roles in an interdisciplinary health team, take medication histories, monitor drug therapy, and provide patient education. Experience in community pharmacies. CL PHARM

149.01. Ambulatory Externship/Clerkship–UCSD. (13) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination.
Weibert and Staff
Supervised clinical experience in an outpatient setting. Students develop and explore their roles in an interdisciplinary health team, take medication histories, monitor drug therapy, and provide patient education. Experience in community pharmacies. CL PHARM

149.02A. Amb Externship/Clerkship–UCI & MHLB. (6.5) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination.
Shimomura and Staff
Supervised clinical experience in an outpatient setting. Students develop and explore their roles in an interdisciplinary health team, take medication histories, monitor drug therapy, and provide patient education. Experience in community pharmacies. CL PHARM

149.02B. Amb Externship/Clerkship–UCI & MHLB. (6.5) F, W, Sp. Prerequisite: Clinical Pharmacy 149.02A.
Shimomura and Staff
Continuation of Clinical Pharmacy 149.02A. CL PHARM

149.03A. Ambulatory Externship/Clerkship–UCD (6.5) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required courses and the comprehensive examination. Clinic 39 hours per week for 6 weeks.
Sauer and Staff
Supervised clinical experience in an ambulatory care setting. Students develop and explore their roles in an interdisciplinary health team, take medication histories, monitor drug therapy, and provide patient education. Experience in community pharmacies. CL PHARM

149.03B. Ambulatory Externship/Clerkship–UCD (6.5) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 149.03A. Clinic 39 hours per week for 6 weeks.
Sauer and Staff
A continuation of Clinical Pharmacy 149.03A. CL PHARM

155.10. Pharmacy Systems. (3) F, W, Sp. Prerequisite: Third-year standing or higher. Lecture 1 hour. Conference and special project 6 hours.
Herfindal
Orientation to inpatient and outpatient pharmacy systems. Projects in design, justification and implementation of distribution systems, such as unit dose, intravenous additive services, computer applications, will be the major grading criteria. CL PHARM

155.20. Drug-Induced Disease Problems. (3) F, W, Sp. Prerequisite: Pathology 135. Third-year standing or higher. Lecture 2 hours. Special project 4 hours.
Tong
The phenomena of iatrogenic diseases will be studied with major emphasis on their significance, pathology and management. Assessment of collection and analytic methods of adverse drug reaction information and evaluation of literature will be considered. Special projects will be assigned. CL PHARM

155.30. Infectious Diseases Topics. (3) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. Lecture and seminar 3 hours.
Guglielmo
Course provides students with intensive, systematic approaches to management of patients with selected infectious diseases. Emphasis is on controversies in management. Infectious diseases in specialized circumstances also included. CL PHARM

155.40. Seminar in Intraprofessional Communications. (1) F. Prerequisite: Second-, third-, or fourth-year standing and consent of instructor. Lab 2-3 hours. Seminar 1 hour. Conference 1 hour.
Levin
Preceptorship for Clinical Pharmacy 110 conferences. One sophomore and one junior preceptor per conference will be responsible for conducting oral presentations. One senior per conference will be responsible for taking students on tours of clerkship sites. CL PHARM

155.50. Oncology Seminar. (2) F. Prerequisite: Fourth-year pharmacy students in good standing; graduate nursing students in the oncology program. Seminar 2 hours.
Ignoffo
Discussion in detail of topics in oncology that focus upon the pharmacologic management of various neoplastic disorders or cancer-induced problems. CL PHARM

157.10. Pharmacy Services Admin–MHLB. (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor.
Shimomura, W.E. Smith
Course provides students with an overview of management and increases their awareness of major components of pharmacy services administration. CL PHARM

170. Group Studies. (1-4) F, W, Sp. Prerequisite: Consent of instructor.
Staff
Group studies of selected topics in clinical pharmacy. CL PHARM

170.01. Geriatric Pharmacy. (2) F, W, Sp. Lecture 2 hours.
Lipton
The medical and social problems associated with the geriatric population will be reviewed, with emphasis on the use of medications and the role of the pharmacist in providing care for this patient population. CL PHARM

170.05. Issues Facing Women in Pharmacy. (2) Sp. Seminar 2 hours.
Kimble, Sauer
Through lecture and discussion, issues facing women in pharmacy will be explored. Specific topics to be addressed include career planning and management; balance or career and personal life; job vs. career commitment; part-time work options; and issues related to increasing numbers of women entering the profession. CL PHARM

170.08. Current Topics in Cancer. (2) Sp. Lecture 2 hours.
Ignoffo
This interdisciplinary course is designed to provide a framework of concepts and skills about preventive medicine, focusing on cancer prevention. CL PHARM

170.60. Pharmacist & Critical Care. (1.5) Sp. Prerequisite: Fourth-year standing and basic life support certification. Lecture 1 hour plus project.
Kayser
This course provides an introduction to the basic principles of critical care pharmacology and therapeutics. CL PHARM

175.01. Inpatient Pediatrics–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Bolinger
Students participate in the activities of the Inpatient Pediatric Service. Activities include routine review of patients' charts, monitoring patients' response to drug therapy; attendance at conferences, seminars and rounds; and participation in selected therapeutic consultations. CL PHARM

175.02. Renal Medicine–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Gambertoglio
Students participate in the activities of the Renal Medicine Service, including patient monitoring, attendance at conferences, seminars and rounds, and application of pharmacokinetics to drug therapy. Where appropriate, students prepare detailed consultations regarding individual patient therapy. CL PHARM

175.03. Infectious Diseases–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Guglielmo
Students review Infectious Disease Service therapeutic consultations and evaluate patients' response to recommended therapy by following chart records and by direct interviews. Students attend conferences, seminars and rounds. Special projects assigned. CL PHARM

175.04. Clinical Pharmacokinetics–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Winter
Students participate 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. CL PHARM

175.07. Neonatal ICU–UC. (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework. Consent of instructor.
A. Wong
Participate in activities of Neonatal ICU, including patient monitoring, rounds, drug consultation, and utilization. Patients are primarily premature and newborn infants with congenital heart defects. Work under supervision of clinical pharmacist in management of these patients. CL PHARM

175.21. Pediatrics–SFGH. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
R. Levin
Students participate with pediatric staff dealing with problems frequently encountered in general pediatric medicine, in addition to those which afflict children from low income, overcrowded and substandard conditions. Activities include rounds, conferences and participation in special projects. CL PHARM

175.22. Infectious Diseases–VAM. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Winter, Rose, Erb, Gee
Students gain experience on the Infectious Disease Consult Service. Activities include rounds, medication consultations and provision of pharmacokinetic monitoring. CL PHARM

175.24. Psychiatric Medicine–NS. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Winter, Cohen
Students observe, interview, evaluate drug therapy, interact with patients in acute phases of psychiatric disorders, accompany unit physicians to court, attend interdisciplinary team conferences, and make specific comments on drug therapy. CL PHARM

175.25. Inpatient Medicine–VA. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Winter, Korman and Staff
Experience in various medical services at VA. Activities include interviewing patients, monitoring drug therapy, consultation with house staff, and participation in conferences, seminars and rounds. Special projects assigned. CL PHARM

175.26. Infectious Diseases–SFGH. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and consent of instructor.
Kapusnik, Mills
Students round with SFGH Infectious Diseases Consultation Service; evaluate antibiotic selection and monitor patients' therapy for efficacy and toxicity; serve as drug consultants to the medical staff on the service. (A special project relating to some aspect of infectious diseases and its therapy will be completed.) CL PHARM

175.27. Burn Unit–STF. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.
Winter, Damato, Jansen
Students work in Burn Unit Satellite, monitoring patients' wound cultures, antibiotic therapy and drug serum levels, renal function, nutritional status and pain management. Student is involved with patient from surgical intervention through rehabilitation. CL PHARM

175.30. Clinical Toxicology Pharmacology–SFGH. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and the comprehensive exam. Consent of instructor.
Winter, Olson
Students, in an interdisciplinary setting, assess clinical problems relating to the selection, pharmacodynamics and therapeutic merits of drugs and drug products. Activities include participation in rounds and conferences, collaboration on selected consultations, and retrieval and evaluation of drug literature. CL PHARM

175.31. Clinical Pharmacology–S. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Winter, Kondo
Students participate in the activities of the Division of Clinical Pharmacology. Activities include utilization of computerized patient drug profiles to monitor adverse drug reactions, and participation in conferences and seminars. Special projects assigned. CL PHARM

175.33. Inpatient Family Practice–SFGH. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.
Dong
Students participate in the activities of the Family Practice Inpatient Service. Students will be responsible for drug surveillance, drug monitoring, management consultations, and patient education. A minimum of two patient-specific drug consultations is required. CL PHARM

175.34. Psychopharmacology–AS. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and consent of instructor.
Winter, Raleigh, O'Brien
Provides student opportunity to follow patients from admission until housed on treatment unit. Initial reasons for prescribing medication, acute illness, and in some cases, resolution of psychiatric symptoms will be observed by student. CL PHARM

175.37. Inpatient Psychiatry–VA. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.
Winter, Buffum and Staff
Students participate on the inpatient acute care psychiatric ward. Activities include monitoring and interviewing patients, participation in team meetings, conferences, and pharmacy medication classes, presenting inservice programs to psychiatric staff. CL PHARM

175.39. Oncology/Nutrition–STF. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and consent of instructor.
Winter, Jacobs
Work on oncology unit monitoring patients on chemotherapy, nutrition support, pain control, and antibiotic therapy. Gain in-depth knowledge of role of clinical pharmacist in a private hospital oncology unit. CL PHARM

175.40. Thyroid–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Dong
Students participate in the activities of the Thyroid Clinic, including patient monitoring, attendance at conferences and seminars. Work under supervision of the clinical pharmacists and physicians in the chronic management of selected patients. CL PHARM

175.41. Dermatology–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132, and Pharmacy 155. Consent of instructor.
McCart
Experience in various subspecialty areas in the Dermatology Clinic. Students take medication histories, and instruct patients on proper medication usage. They participate in conferences, seminars and rounds, and provide therapeutic consultations where appropriate. Special projects assigned. CL PHARM

175.42. Ob-Gyn–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Winter, Ruggiero
Experience in various subspecialty areas in the Obstetrics and Gynecology Clinic. Students work with other health professionals and students in the clinic, participating in conferences and seminars. Prepare detailed consultations regarding drug therapy where appropriate. CL PHARM

175.43. Diabetes–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
M. Kimble
Students participate in the activities of the Diabetes Clinic, including patient education, drug therapy consultation and management, and attendance at conferences and seminars. At option of student, a special project may be undertaken in addition to regular clinic activities. CL PHARM

175.45. Anticoagulation–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Kayser
Students participate in the activities of the Anticoagulation Clinic. Special project is required, the subject of which shall be chosen by the student, with the consent of the preceptor. CL PHARM

175.46. Hematology/Oncology–UC. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Stagg
Students participate in the daily activities of the Hematology-Oncology and/or Oncology Clinics. Special project is required. CL PHARM

175.47. Rheumatology–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
A. L. Leeds
Students participate in the activities of the Rheumatic Disease and/or Arthritis Clinics. Special project is required, the subject of which shall be chosen by the student, with the consent of the preceptor. CL PHARM

175.60. Ross Valley Pharmacy Clerkship. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor.
Winter, Lofholm
Students interview patients, maintain medication records, explain medication usage to patients, and answer drug therapy questions generated by physicians, pharmacists and patients in a pharmacy located within a group medical practice. CL PHARM

175.61. Co-op Pharmacy Clerkship. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Winter, Kamil, Olayos
Students take patient medication interviews, explain medication usage to patients, and answer drug therapy questions generated by physicians, pharmacists and patients in a community pharmacy setting. CL PHARM

175.63. Sunset Mental Hlth Clin Clkshp. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Winter, T. Wong, S. Kaufman, Bernstein, Baker
Students work with the clinical pharmacist to evaluate psychiatric patients' response to drug therapy, and present consultations reviewing overall patient therapeutic management in weekly seminars. CL PHARM

175.64. Haight Heroin Detox Unit Clkshp. (1-8) Su, F, W, Sp. Prerequisite: Consent of instructor.
Winter, Inaba, Hayner
Students work as co-therapists under the supervision of the clinical pharmacist and physicians to develop individual therapy plans for drug detoxification. Where needed, students develop detailed drug information reports appropriate to specific patient care. CL PHARM

175.65. Monteagle Pharmacy Clkshp. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Winter, Scheidtmann, Arauzo, Stein-Larson
Practical experience in a hospital-owned community pharmacy offering progressive patient-oriented services, including drug monitoring, establishment and maintenance of medical profiles, patient counseling, drug information and inservice education. CL PHARM

175.68. Senior Medication Education Prog. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Winter, L. Eng
Students provide patient education and consultation to seniors and senior providers. Students will be able to utilize their skills, knowledge, and on-site training to prevent and intervene in geriatric drug misuse problems. CL PHARM

175.70. Skilled Nursing Facility Clkshp. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.
Winter, Nico, Rhoades, Fickle
Students gain experience in both the skilled nursing facility and Pharmaceutical Services Pharmacy. Activities include evaluating drug therapy and other consultant roles in skilled nursing facility service,

participation in unit dose medication system, and researching drug information. Special project required. CL PHARM

175.79. Home Care Services. (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework. Consent of instructor.
Winter, Alexander
Students participate in Home Health Care Services, including fluid compounding, patient monitoring, multi-disciplinary meeting, interacting with nurses in the home setting, patients both pre- and post-discharge and with physicians in their office setting to become familiar with all aspects of home specialty care. CL PHARM

175.80. Parenteral Nutrition. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
McSweeney
Students participate in IV fluid therapy selection and preparation, and monitor patients receiving intravenous medications. Conferences are held on topics related to problems in the use of intravenous fluid therapy in various disease states. CL PHARM

175.82. IV Additives Clerkship–VA. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Winter, Korman, Wong and Staff
An introduction to the administrative, professional and technical aspects of establishing and maintaining IV additive service. Students will participate in workshops and conferences. CL PHARM

175.83. IV Additives & Unit Dose–VAM. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Winter, Erb, Carr, Lopez, J. Gee
Students participate in centralized IV admixture and unit dose systems of distribution, with involvement in the decentralized clinical activities, including patient profile reviews. CL PHARM

175.84. Drug Utilization Review–VAM. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Winter, Erb, J. Gee
Students participate in establishing and presenting the protocol for a drug utilization review. Students will complete the study during the rotation, and present results to the physicians and other disciplines involved. CL PHARM

175.87. Drug Utilization Review–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.
McCart
Students design a drug utilization review. After receiving introductory material about purpose and value of such studies, students gather, evaluate, and interpret data for a final written report suitable for publication. CL PHARM

175.90. Drug Information Clerkship–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
L. Hart
Advanced experience in drug information retrieval and analysis. Activities include participation in conferences, seminars and selective teaching assignments in Clinical Pharmacy 135. Special projects assigned. CL PHARM

175.91. Drug Information Clerkship–AB. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and 135. Consent of instructor.
Winter, Miller and Staff
Experience in collection, evaluation and dissemination of drug information in a community-based drug information service. Activities include answering drug information requests from community practitioners. CL PHARM

175.93. Cost Control & Qlty Assurance. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Winter, Hirschman, Padelford
Students observe and participate in a business-professional environment to understand the role of such an organization in delivery of optimal, cost-effective health care. Special emphasis on delivery of pharmaceutical ser-vices. CL PHARM

175.94. Drug Information–S. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.
Winter, Tatro
Participate in activities of drug information service, including answering drug-related questions, writing a newsletter and drug review. Work under supervision of the director for drug information. CL PHARM

175.99. Clinical Pharmacy Practice. (0) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework and consent of instructor.
Winter
Supervised clinical pharmacy experience. Students develop and explore their roles in an interdisciplinary health care team, take medication histories, monitor drug therapy, provide patient drug education and research patient's specific drug information questions. CL PHARM

176.01. Nephrology–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
D. Adler and Staff
Students participate in the Renal Consult Service, Hemodialysis Unit and in the Renal Clinic with the medical and nursing staff. A special project selected by the student will be required. CL PHARM

176.02. Pulmonary Medicine–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
D. Adler and Staff
Students participate in the activities of the Pulmonary Medicine Consult Service, Chest Clinic and Asthma Clinic associated with the Pulmonary Division at University Hospital. CL PHARM

176.03. Neonatal Care–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
D. Adler and Staff
Students participate in the nursery's morning work rounds, attending high risk infant transportation and delivery. Students will read and evaluate current neonatal literature, and provide drug-related information to medical staff and parents. CL PHARM

176.04. Pediatrics–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
D. Adler and Staff
Students participate in the activities of the Inpatient Pediatric Service. Activities include routine review of patients' charts, monitoring patients' response to drug therapy, attendance at conferences, seminars and rounds, and participation in selected therapeutic consults. CL PHARM

176.05. Psychiatry–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
D. Adler and Staff
Students participate in the Inpatient Psychiatric Service. A special project will be required, the subject of which shall be chosen by the student, with the consent of the preceptor. CL PHARM

176.40. Anticoagulation–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
Weibert and Staff
Students participate in the services of the anticoagulation clinic at University Hospital under the guidance of a clinical pharmacist. CL PHARM

176.41. Hematology/Oncology–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
D. Adler, P. Lee
Students participate in the activities of the Hematology-Oncology Consultation Service. Activities include review of patients' charts, monitoring patients' response to drug therapy, attendance at conferences, seminars, rounds and clinics, participation in therapeutic consultations and a special project. CL PHARM

176.42. Hypertension–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
Weibert and Staff
This hypertension clerkship is an outpatient, six-week elective requiring students to become actively involved in one clinic day per week, as well as in one student-preceptor conference per week. CL PHARM

176.80. IV Additives & Fluid Ther–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
D. Adler and Staff
Students participate in the activities of the Intravenous Additive Service at University Hospital. A special project will be required, the subject of which shall be chosen by the student, with the consent of the preceptor. CL PHARM

176.81. Poison Information–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
Manoguerra and Staff
Students participate in the services provided by the Poison Information Center for San Diego County, including receiving calls concerning ingestions and treatments, and seminars for the public and various school groups. CL PHARM

176.82. Anticoagulation–VASD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
D. Adler and Staff
Students participate in the services of the Anticoagulation Clinic under the guidance of a clinical pharmacist. CL PHARM

176.83. Drug Information–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.
P. Anderson
Students participate in the services provided by the Drug Information Service including receiving drug information requests, researching and writing formal responses. CL PHARM

178.69. Skilled Nurs Facility–Pharmacare. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.
Sauer, Menet
Student participates in clinical and dispensing activities of pharmacy practice concerned with long-term care patients located within skilled nursing facilities throughout Sacramento area. CL PHARM

185.05. Oncology–UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Ignoffo
Students attend work rounds, house staff management rounds and teaching conferences; learn techniques utilized in caring for patients with hematologic or solid tumors. Emphasis on acute care of cancer patient: anti-emetic and pain control; hyperalimentation; treatment of hypercalcemia and infections. Project. CL PHARM

185.06. Cardiothoracic Surgery–UC. (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor.
Guglielmo
Students are responsible for patient interviewing, monitoring, rounds, and drug consultation. Patients are primarily pediatric with congenital heart defects and adults undergoing aorta-coronary bypass grafts and cardiac valve replacement. CL PHARM

185.20. Vallejo General Hospital Clkshp. (1-8) Su, F, W, Sp. Prerequisite: Fourth-year standing and Clinical Pharmacy 148 or 149.
Hazlet, Winter

The clerkship stresses the integration of dispensing and clinical practice in a prime community hospital. Students will make daily didactic and/or patient presentations to pharmacy staff members. A project is required. CL PHARM

185.22. Pediatrics–CHMC. (1-8) Su, F, W, Sp. Prerequisite: Completion of all first-, second-, and third-year course work and consent of instructor.
Winter, Lundergan, Rockwood
Students will participate in the activities of the In-Patient Pediatric Service at Children's Hospital, Oakland. Emphasis will be placed on the development of clinical skills in pediatric pharmacy, with a limited exposure to the development of essential administrative skills. CL PHARM

185.23. Medicine–SRM. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Winter, Dennis, Sobel
Students attend rounds, interview patients and take medical histories, monitor and evaluate drug therapy, anticipate and identify drug therapy problems, provide patient with specific information to health team members, provide drug and health information to patients, document clinical services. CL PHARM

185.25. Brookside Hospital Clerkship. (1-8) F, W, Sp. Prerequisite: Completion of all first-, second-, and third-year required course work.
Winter, Levin, Millice
Students participate in various clinical activities, including patient monitoring (antibiotics, nutritional support, pharmacokinetics), patient education and drug information. CL PHARM

185.28. Psychiatric Care Unit–STF. (1-8) SS1, SS2, Su. Prerequisite: Completion of all first-, second-, and third-year required course work and successful completion of the comprehensive examination.
Winter, Closson
The student will participate in an interdisciplinary team approach to psychiatric care, including drug therapy monitoring, daily interdisciplinary patient care rounds and patient evaluation. CL PHARM

185.29. Intensive Care–STF. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor.
Winter, Gatterer, Jansen
Students work with clinical pharmacist in ICU, monitoring patient drug therapies throughout intensive illness course. Diseases of patients include acute failure of any physiologic system including cardiovascular, renal, hepatic, neurologic, and pulmonary. CL PHARM

185.30. Geriatrics. (4-8) Su, F, W, Sp. Prerequisite: Successful completion of all first, second, and third year required coursework and instructor approval.
M. Winter, Carr-Lopez
Student participates in screening of patients over 70 years of age, biweekly multidisciplinary geriatric team conferences, attending rounds, and weekly geriatric outpatient clinic. Most common problems relate to polypharmacy, poor nutrition, chronic diseases, depression, syncopy, dementia, and pneumonia. CLIN PHARM

185.33. Drug Information Service–VAM. (1-8) F, W, Sp. Prerequisite: Fourth-year standing.
Winter, Lopez, Gee
Students participate in the activities of the drug information center including providing consultation on drug therapy questions, evaluation of the medical literature, and preparation of a written project suitable for publication. CL PHARM

185.34. Inpatient Clinical Pharmacy. (1-8) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required course work and the comprehensive examination.
Winter, Garich, Inouye
The student will work with the clinical pharmacist and will be involved in the care of critically ill patients with multiple medical problems (i.e., sepsis, multiple organ failure) to provide optimal drug therapy by proper drug selection, avoiding drug interactions, and monitoring therapeutic outcomes. CL PHARM

185.36. Nutrition Support–Queen's Medical Center. (1-8) F, W, Sp. Prerequisite: Completion of all first-, second-, and third-year required course work and successful completion of the comprehensive examination.
Winter, Garich, Schanzenbach
The student will work with the nutrition support pharmacist and will be involved in the care of patients receiving parenteral nutrition to provide optimal therapy by maximizing nutritional supplementation with regard to the patient's specific disease state. CL PHARM

185.38. Alcoholism & Poly-Drug Abuse–OC. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.
Winter, Furtado, Icazo
Detoxification and management of alcoholism and poly-drug abuse. Emphasis on methods of acute detoxification and support services in rehabilitation of patients, including responsibilities of health care team members and consideration of physical and psychological consequences. CL PHARM

185.66. Women's Health Center. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.
Winter, Inaba, Dillon, Langden
Students participate in functions of family planning-gynecological clinic, including management and handling of pharmaceuticals, monitoring BCP users under NP supervision, and participating in special projects. CL PHARM

185.67. Extended Care–Marin Cnty. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Winter, Robertson

Students interview patients, monitor drug therapy, provide nursing inservice education, provide drug information consultations to physicians, and conduct drug utilization and adverse drug reaction studies. Students continuously document activities and findings and submit a written report. CL PHARM

185.70. Consultant Practice in Extended Care. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and the comprehensive exam. Consent of the instructor.
Winter, Pratt, Henrietta
Students will participate in drug regimen and internal nutrition reviews, nursing inservices and medication distribution reviews, and conduct medication administration error audits and special projects. Students may also be involved with the development of laptop computer consulting and nutritional and pharmacokinetic consults. CL PHARM

185.71. Jail Medical Services–SF. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.
Winter, Kubo-Hendriks, Lum
Students gain experience managing medical problems of adult and adolescent patients at three jail sites; participate in daily clinic, medical screening, patient monitoring, conferences. Optional administrative or clinical project. CL PHARM

185.72. Outpatient Forensic Psychiatric Service–CSP. (1-8) F, W, Sp. Prerequisite: Completion of Clinical Pharmacy 130, 131, 132 and consent of instructor.
Winter, Leung
Students participate in the activities of an outpatient forensic mental health clinic including drug therapy monitoring, patient education and counseling, drug utilization reviews, medication clinics, medication groups, and inservice conferences. They will work under the supervision of faculty in the on-going management of selected mentally disturbed criminal-justice patients. CL PHARM

185.73. Integrated Care Systems. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.
Winter, Gross
Students participate in home health care services, including fluid compounding, patient monitoring, multidisciplinary meetings, interaction with nurses in the home setting, patients both pre- and post-discharge and with physicians in their office setting to become familiar with all aspects of home specialty care. CL PHARM

185.74. Lifesource. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.
Winter, Alexander
Under the supervision of a pharmacist, students participate in the compounding, monitoring, and management of parenteral nutrition and medications for home-bound patients. Students also become familiar with the administrative structure and marketing of home health services. CL PHARM

185.75. Hospice–SFGH. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.
Winter, Echaves
Students will participate in patient home visits as a member of the Hospice Committee at San Francisco General Hospital to determine the efficacy of drug therapy and assess medication compliance. CL PHARM

185.76. Home Care Mgmt of High-Risk Ob Patient. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.
Winter, Sandow
Students participate in the activities of Tokos Medical Corporation, including patient monitoring and attendance at medical rounds. They will work under the supervision of the clinical pharmacist in the provision of home care to the high-risk obstetrics patient. CL PHARM

185.77. Drug Utilization Eval and Target Drug Programs. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.
Winter, Bergstrom
Students will design and implement a target drug program which will include the following components: Drug utilization evaluation, written proposal, implementation, followup, and publication. Students will participate in didactic conferences which will discuss formulary management, DUEs, cost containment strategies, and target drug implementation. CL PHARM

185.78. Drug Usage Eval and Target Drug Programs. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.
Winter, L. Davis
Students will design and implement a drug usage evaluation and target drug program which will include the following: Development of a written proposal, presentation to the P&T Committee, and implementation, data collection and followup activities. Students will participate in didactic conferences which will discuss formulary management, Drug Usage Evaluation process, cost containment strategies, and target drug implementation activities. CL PHARM

185.79. IV Admixture, Automated Unit Dose. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.
Winter, K. Lee
Students will participate in a centralized IV Admixture, Automated Unit Dose system of distribution and outpatient pharmacy operation. Activities will in-

clude patient profile reviews, drug usage evaluations, drug information research and presentations. Optional computer and management training is available. CL PHARM

186.06. Clinical Pharmacokinetics–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and/or consent of instructor.
D. Adler, J. Lane
Discussion and review of pharmacokinetic principles in drug therapy relating to clinical cases at UCSD, including computer modeling, specific consults, and lectures to medical and nursing staff. A special project is assigned. CL PHARM

186.07. Burn and Trauma Center–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and/or consent of instructor.
D. Adler, P. Anderson
Participation in activities of Burn Unit including patient drug therapy monitoring, developing antibiotic therapy dosing recommendations, observing surgical and burn care procedures, conferences, seminars, and staff support conferences. Pharmacy conference and special project assigned. CL PHARM

186.59. Medical Specialties–UCSD. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01. Consent of instructor.
D. Adler and Staff
Exploration of the potential service roles of clinical pharmacists in various medical specialty settings. CL PHARM

187.01. Oncology–MHLB. (1-8) W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.
Shimomura, Diamant, Towne
General orientation to the most frequently occurring diseases of oncology and hematology. Emphasis on developing working knowledge of chemotherapeutic agents. Emphasis on application of chemotherapy to oncologic diseases, preparation and administration of agents, side effects and toxicity, applicable pharmacokinetic calculations. CL PHARM

187.02. Pharmacokinetics–MHLB. (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.
Shimomura, Ambrose
Participation in all aspects of clinical pharmacokinetics service including information, consultations, and drug dosing regulations, under approved protocols. Involvement in analysis and evaluation of serum drug levels, particularly in patients with altered drug disposition. CL PHARM

187.03. Anticoagulation–MHLB. (1-8) W, Sp. Prerequisite: Clinical Pharmacy 148A and consent of instructor.
Shimomura, R. Cook
Participation in application of heparin and warfarin guidelines, which involve dosage adjustment, clinical assessment, data collection, medical audit. Students learn about management of patients with thromboembolic diseases through conferences, selected readings and clinical participation. CL PHARM

187.04. Pediatrics–MHLB. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.
Shimomura, Hodding, Folli, Rivers
Participation in patient care rounds, monitoring case presentations, pharmacokinetic evaluations, literature research, and CPRs in neonatal and pediatric patients. Major pediatric disease states and appropriate drug therapy will be reviewed daily. Six to ten hours of medical seminars each week. CL PHARM

187.05. Psychiatry–UCI. (1-8) W, Sp. Prerequisite: Fourth-year standing and consent of instructor.
Shimomura, Plon
Active involvement with patients and staff in acute care mental health facility. Students interview, interact with, and monitor patients. Thorough background into various forms of mental disorders, treatment and role of pharmacist will be presented. CL PHARM

187.06. Pediatrics–UCI. (1-8) W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.
Shimomura, Zenk
Students participate in activities of neonatal intensive care unit and inpatient pediatric services, monitoring patients, attending rounds and conferences. Emphasis will be on acute inpatient pediatric medicine and neonatology under supervision of pediatric clinical pharmacist and pediatricians. CL PHARM

187.07. Ophthalmology–UCLA. (1-8) W, Sp. Prerequisite: Fourth-year standing and consent of instructor.
Shimomura, S. Gardner
Students participate in the activities of the Jules Stein Eye Institute, which include patient monitoring, attendance at conferences and seminars, and dispensing of ocular medications. Students work under the supervision of the pharmacist preceptor in learning the management of common diseases of the eye. CL PHARM

187.08. Emergency Room–UCI. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Shimomura, R. Thomas
Students participate in activities of emergency room and become familiar with the role of the pharmacist in this setting. Emphasis is on managing emergency conditions such as drug overdose, diabetic ketoacidosis, trauma, and cardiac arrhythmia. CL PHARM

187.09. Fairview State Hospital Clkshp. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Shimomura, Shukur
Students observe and participate in activities of the pharmacy and developmental services at the hospital.

Emphasis is on diagnosis and management of neurological and genetic diseases such as seizure disorders and mental retardation. CL PHARM

187.10. Long-Term Care Facilities. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.
Shimomura, Tobias
Students observe and participate in monitoring geriatric patients in several long-term care facilities. Students will gain appreciation of the role of the consultant pharmacist and learn how to adjust drug therapy and dosages for geriatric patients. CL PHARM

187.11. Medicine at La Habra Com Hosp. (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor.
Shimomura, Kitayama, Levesque
Students participate in rounds with clinical pharmacists. They are involved in monitoring TPN solutions, screening patients with positive culture results to assure appropriate antimicrobial selection and dosage, adjusting serum levels of selected agents. CL PHARM

187.20. Psychopharmacology–Patton. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.
Shimomura, Luna
Students exposed to psychopharmacology and participate in clinical pharmacy activities of a state psychiatric hospital; become familiar with federal and state regulations affecting pharmacy practice in skilled nursing, intermediate care, and acute psychiatric care facilities. CL PHARM

187.21. Presbyterian Intercommunity Clin. Pharmacokinetics. (1-8) Su, F, W, Sp.
Shimomura, Zeisler
Students will acquire the basic knowledge in applied pharmacokinetics necessary to provide consultative assistance to the physicians in developing an appropriate drug dose regimen. Emphasis will be placed on integrating knowledge of patients' problems with the knowledge of the drug's kinetic and pharmacologic properties. CL PHARM

187.60. Home Care–Pharm Enterprises Inc. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.
Shimomura, Martinez, Henry
Students round with health care team in hospitals, extended care facilities, and homes. Involved with monitoring total parenteral nutrition, chemotherapy, pain management, antibiotic therapy, and related services for home care patient. CL PHARM

187.61. Foster Infusion Care. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework.
Shimomura, Campbell
Students will be exposed to various aspects of a home care pharmacy including pre-discharge patient assessment, patient training and education, manufacturing of parenteral solutions and home delivery, and patient follow-up visits. CL PHARM

187.65. FHP-HMO Clinical Pharmacy Clerkship. (1-8) F, W, Sp. Prerequisite: Completion of all first-, second-, and third-year required course work.
Shimomura, Giambrone, Ponedal
Students participate in providing clinical pharmacy services in an HMO setting. Activities include attending inpatient service rounds, providing clinical services to ambulatory patients and providing inservice education classes and preparing pharmacy and therapeutic committee drug reviews. CL PHARM

187.80. Drug Information–MHLB. (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor.
Shimomura, Towne, Schweigert
Students will be provided the opportunity to develop the skills required to work in a drug information service, which includes organization and retrieval of drug information, drug literature evaluation, and effective verbal and written communication. CL PHARM

187.81. IV Additives–UCI. (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor.
Shimomura, Ming
Students participate in the activities of an intravenous additive service in a large university teaching hospital. Students will learn about aseptic technique, compatibility and stability of drugs in intravenous solution, total parenteral nutrition, prefilled syringe programs, home hyperalimentation and piggybacks. CL PHARM

187.82. Drug Information–UCLA. (1-8) W, Sp. Prerequisite: Fourth-year standing and consent of instructor.
Shimomura, Vrabel
An on-line experience in a drug information center serving a large multidisciplinary teaching hospital. Through a series of experience modules, in addition to day-to-day information requests received by the center, students will be expected to demonstrate competence in drug literature evaluation and drug information retrieval skills. CL PHARM

187.83. IV Additives–UCLA. (1-8) W, Sp. Prerequisite: Fourth-year standing and consent of instructor.
Shimomura, Casselman
Clerkship provides an opportunity for students to develop and use skills relating to all areas of a centralized IV additive service. Students will make routine case presentations regarding patients receiving different types of intravenous therapy, including parenteral nutrition. CL PHARM

188.01. Oncology–UCD. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work and consent of instructor.
Sauer and Staff
A supervised clinical pharmacy experience in inpatient and outpatient settings which allows students to develop skills in clinical pharmacy settings involved with oncology practice. Through observation and performance, students will develop and explore their roles as clinical pharmacists. CL PHARM

188.02. Psychiatric Medicine–UCD. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 or 149 and consent of instructor.
Sauer and Staff
Students participate on the UCD Medical Center inpatient acute care psychiatric ward. Activities include monitoring and interviewing patients, participation in team medical rounding, conferences, and pharmacy medication classes. Students will also present inservice program(s) to the psychiatric staff and pharmacy staff. CL PHARM

188.03. Poison Information–UCD. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 or 149 and consent of instructor.
Sauer and Staff
Students participate in poison control center activities, e.g., answering phone, poison histories, monitoring patients, and giving poison prevention talks to the public and health care professionals. CL PHARM

188.04. Neonatal Intensive Care–UCD. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year classes and consent of instructor.
Sauer and Staff
Students will become members of Neonatal Intensive Care Team, attend rounds, conferences, monitor and evaluate drug therapy, and provide drug therapy-related consultation. CL PHARM

188.05. Medical Intensive Care–UCD. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 and consent of instructor.
Sauer and Staff
The student will work with pharmacist in the Medical Intensive Care Unit (MICU) and satellite pharmacy providing both clinical and distributive pharmacy services. Students will be exposed to drug therapy as it relates to different disease states seen in the unit. CL PHARM

188.06. Surgical Intensive Care–UCD. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 or 149 and consent of instructor.
Sauer and Staff
The student will be placed as a liaison from the Department of Pharmacy to the Surgical Intensive Care Unit. He/she, under the supervision of a pharmacist, will assume responsibility for the pharmacologic management of critically ill patients. CL PHARM

188.07. Gastroenterology-Clinical Nutrition–UCD. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 and consent of instructor.
Sauer and Staff
The clerkship affords the student an extensive experience in clinical pharmacy services to the Gastroenterology and Clinical Nutrition services at UCD Medical Center. The student will manage patients requiring parenteral nutrition and become an integral member of the Gastroenterology Consult Team. CL PHARM

188.08. Microcomputer Applications in Pharmacy Practice–UCD. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work and consent of instructor.
Sauer and Staff
The student will identify and develop a solution for a problem in pharmacy practice that can be resolved by the use of microcomputers. In addition, the student will review the utility of various software used in pharmacy practice. CL PHARM

188.09. Drug Utilization Review–UCD. (1-8) Su, F, W, Sp. Prerequisite: Fourth-year standing, completion of Clinical Pharmacy 148 or 149.
Sauer and Staff
Upon familiarization with the literature, the student will design and conduct a drug utilization review and present the results to the Hospital Pharmacy and Therapeutics Committee. CL PHARM

188.10. Infectious Diseases–UCD. (1-8) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required course work and comprehensive examination.
Sauer, King
Students will be active participants in the UCD Medical Center Infectious Diseases Consult Service. They will work closely with the Infectious Disease Pharmacist, evaluating antibiotic selection, monitoring therapy and providing drug information. A project will be completed during the rotation. CL PHARM

188.11. Pharmacokinetics. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first- second-, and third-year required coursework, and consent of instructor.
B. Sauer, Dager, Inchiardi
Students will be exposed to the application of pharmacokinetic principles while monitoring patients receiving a selected group of drugs. They will work under the supervision of an assigned clinical pharmacist. CL PHARM

188.12. General: Pediatrics Elective. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-second-, and third-year required coursework, and consent of instructor.
Sauer, Christensen
Under supervision of the clinical pharmacist, students will become members of the pediatric ward team. They will attend rounds and conferences, monitor patients, evaluate drug therapy, and when appropriate, recommend therapy. Patients vary in age from 2 weeks to 16 years. CL PHARM

188.20. Oncology/Sutter Community Hospitals. (4-8) F, W, Sp. Prerequisite: Fourth-year standing only.
Sauer, Spencer, Jue

A supervised clinical pharmacy experience in inpatient and outpatient settings which allows students to develop clinical skills involved with oncology, nutritional support, and hospice. Through observation and performance, the students will develop and explore their roles as clinical pharmacists. CL PHARM

188.21. Cardiology Inpatient Clerkship. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework and consent of instructor.
Sauer, Jue, Keil, Hall, Spencer
A supervised clinical pharmacy experience in an inpatient setting which allows students to develop skills in clinical pharmacy involved with cardiology. Through observation and performance, students will develop and explore their roles as clinical pharmacists. CL PHARM

188.25. Pharmaceutical Svcs in Managed Hlth Care Organizations. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first- second-, and third-year required coursework, and consent of instructor.
Sauer, Mitsuoka
Students will become familiar with principles and operation of a managed health care organization. The student will then identify an area of potential cost containment and develop a written policy and procedure to effect a positive clinical and economic solution. CL PHARM

188.26. Community Hospital Critical Care. (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first- second-, and third-year required coursework, and consent of instructor.
Sauer, Dallas
Students will concentrate on developing skills in the clinical arena utilizing state-of-the-art technology, while dealing with a variety of patients in the community hospital setting. Communication with other healthcare disciplines is stressed. CL PHARM

188.30. OPTION Care. (1-8) F, W, Sp. Prerequisite: Completion of all first-, second-, and third-year required course work.
Sauer, Fox
Student(s) will participate in selected areas of a home health care pharmacy. Students will develop skills in areas of parenteral and enteral nutrition, diabetic training, ostomy appliance applications, and durable medical equipment services in a home setting and a skilled nursing facility (convalescent hospital) setting. CL PHARM

188.31. Pharmacy Consultation: Skilled Nursing Facility. (1-8) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required course work and the comprehensive examination.
Sauer, DiGiambattista
The student will work in the long-term care setting. This includes learning federal and state regulations mandating frequency of drug regimen reviews and pharmacy systems operations. Projects may be DUR, inservices to nursing personnel or a newsletter. CL PHARM

188.32. Medical Arts Parenteral Services–NMC Inc. (1-8) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required courses and the comprehensive examination.
Sauer, Okamoto, Dager
Pharmacy students will participate in various operations within a home health care pharmacy. Subject areas include TPN, enteral nutrition, and home antibiotic therapy. Clinical monitoring of such patients will be emphasized. CL PHARM

188.40. Veterinary Medicine–UCD. (1-8) Su, F, W, Su. Prerequisite: Successful completion of all first-, second-, and third-year required coursework and consent of instructor.
Sauer, Enos, Martin
The student will participate in the clinical and dispensing activities of a pharmacy practice involved in veterinary medicine. Through observation and performance, students will explore the role of the clinical pharmacist in the care of large and small animals. CL PHARM

198. Supervised Study. (1-5) F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. CL PHARM

450. Pharmacy Clinical Work. (8-12) F, W, Sp. Prerequisite: Resident standing.
Herfindal, Kishi and Staff
Residents provide pharmacy service to patients in the wards and outpatient clinics including taking drug use histories, preparing and monitoring medication profiles, providing drug use information and consultation, and related activities. In addition, there are administrative and teaching responsibilities. CL PHARM

451. Drug Information. (5) Su, F, W, Sp. Prerequisite: Resident standing and approval of program director.
Herfindal, Hart
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. CL PHARM

452. Administration. (5) Su, F, W, Sp. Prerequisite: Resident standing and approval of program director.
Herfindal, Kishi 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. CL PHARM

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

Community Dentistry

168. Community Health Methods. (2) W. Lecture 1 hour. Lab 3 hours.
Tobin
Dental hygiene students work in the North Oakland community with the Children and Youth Project staff. Students are assigned to area schools where oral screening is done. Students also make home visits. DENT PUB HLTH

Craniofacial Anomalies

170.21. Craniofacial Function. (2) F. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry programs or consent of instructor. Lecture 2 hours.
A. Miller
This course emphasizes those properties of the neuromuscular system that modify the craniofacial morphology and structure. GR DEVEL

171. Diagnosis & Treatment. (2) F, W, Sp. Lecture 1 hour. Seminar and clinic 3 hours.
Chierici, Vargervik
Diagnostic, preventive, and corrective methods relative to patients with congenital malformations of the orofacial region are discussed. GR DEVEL

171.22. Craniofacial Anomalies. (2) W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry programs or consent of instructor. Lecture 2 hours.
Vargervik
Demonstration of various types of craniofacial anomalies, assessment of growth and development of abnormal and normal craniofacial structures, diagnosis and evaluation of the more common anomalies and associated impaired functions and therapeutic needs of the individual patient. GR DEVEL

186.01. Abnormal Orofacial Development. (1) F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor. Seminar and clinic 3 hours.
Chierici, Vargervik
The pathogenesis of jaw deformities, dental malocclusions, and speech disorders associated with congenital malformation is discussed. Instruction in diagnosis and preventive and corrective treatment methods is given in the clinic. GR DEVEL

Dental Auxiliary Utilization

120. Use of Dental Auxiliaries. (1) Sp. Prerequisite: Restorative Dentistry 116. Lecture 1 hour.
Bird
Lecture, clinical, and field work covering the principles of dental ergonomics, operator and patient positioning, instrument transfer techniques, and an orientation to efficient chairside auxiliary utilization and their legal functions DENT PUB HLTH

Dental Health Education

150A. Communication Theory in Dental Hygiene. (1) F, Lecture 1 hour.
Walsh
Introduction to communication theories and models. Considers personal and professional aspects of communication, intrapersonal, interpersonal, verbal, and nonverbal communication and listening skills. Emphasis is placed on the dental hygienist-patient relationship and the development of communication skills for dental hygiene care and chairside education. DENT PUB HLTH

150B. Human Dev & Oral Health Education. (2) W. Prerequisite: DHE 150A. Lecture 2 hours.
Ishida, Poupard
Introduces student to basic concepts of preventive oral hygiene, learning and motivation theories, and an overview of human development, including physical/dental, cognitive, emotional, and psychosocial aspects across the life span. Considers each stage of development, from infancy, childhood, adolescence, to young, middle, and late adulthood, and related health care and oral health education needs. DENT PUB HLTH

160. Community Dental Health. (2) W. Prerequisite: Dental Health Education 150A. Lecture 2 hours.
Tobin
Explores alternative, non-clinical roles for dental hygienists while introducing the student to program planning, implementation, evaluation, and financing theories. Students are given the opportunity to develop program planning and evaluation skills with a selected community dental health education field project. DENT PUB HLTH

161. Teaching, Learning & Curriculum Theory. (3) F. Lecture 3 hours.
M. Walsh
Analysis of theories and research in education emphasizing teaching strategies, evaluation methods, and principles of curriculum development for use in planning educational programs in schools of dental hygiene. Includes a field study and videotaped microteaching for application and evaluation of selected teaching interactions. DENT PUB HLTH

198. Supervised Study. (1-5) F, W, Sp. Prerequisite: Dental Health Education 150A-B, 160A-B, and Biostatistics.
Francisco
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. DENT PUB HLTH

199. Laboratory Project. (1-5) F, W, Sp. Prerequisite: Dental Health Education 150A-B and 160A-B. Lecture 1 hour. Lab 0-12 hours.
Francisco
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. DENT PUB HLTH

Dental Hygiene

101.01. Leadership & Mgmnt in Dental Hyg. (2) Sp. Lecture 2 hours.
M. Walsh, Heckman, Poupard
Analysis of leadership and management theories, and of primary leadership skills related to personal behavior, communication, organization, and self examination. Graduate programs and leadership roles in dental hygiene education, accreditation, public health, and industry are discussed. Course provides opportunity to develop leadership roles appropriate to the student's area of interest. DENT PUB HLTH

101.02. Leadership & Mgmnt in Dental Hyg. (2) Sp. Lecture 2 hours.
Hannebrink
Consideration of dental hygiene leadership roles in the areas of practice management and career planning including goal analysis and nontraditional roles for dental hygienists. Course provides opportunity to implement leadership role in student's area of interest.

109. Clinical Dental Hygiene. (1-2) SS. Prerequisite: Dental Hygiene 155A-B, 159, and approval of the chairperson of the division. Clinic 3-6 hours.
Staff
Course provides additional clinical dental hygiene experience before entry into the second-year clinic. DENT PUB HLTH

150.01. Theoretical Foundations for Dental Hyg. (1) F. Prerequisite: Dental hygiene standing. Lecture 2 hours.
M. Walsh, Heckman, Poupard
Course introduces a conceptual framework and theoretical approach as the basis for providing dental hygiene care. Basic concepts of health and illness, human need theory, the scientific method, and leadership theories are considered with emphasis on health promotion and disease prevention for the individual, family, and community. DENT PUB HLTH

150.02. Assessments in the Dental Hyg Process. (2) F. Prerequisite: DH 150.01. Lecture 2 hours.
Heckman
Course will focus on the principle of assessment as the first phase of the dental hygiene process of assessment, planning, goal setting, implementation, and evaluation used in providing dental hygiene care. The rationale for collection of assessment data, associated clinical techniques, and documentation procedures will be presented. DENT PUB HLTH

150.03. Dental Hyg Planning, Implementation, & Evaluation. (2) W. Lecture 2 hours.
Heckman
The planning, implementation, and evaluation phases of the dental hygiene care process will be emphasized as a continuation of DH 150.02. The use of assessment data to plan care and set goals for the patient will be presented as well as the implementation of highly technical skills of dental hygiene practice. Evaluation of dental hygiene care is emphasized as an essential component of the dental hygiene process. DENT PUB HLTH

150.04. Dental Hyg Care for Patients with Special Needs. (2) Sp. Prerequisite: DH 150.01, 150.02 & 150.03. Lecture 2 hours.
Heckman
Course addresses the role of the dental hygienist in preventive dentistry and non-surgical periodontal therapy with emphasis on the objective and principles of comprehensive dental hygiene care for special needs patients. Modification of dental hygiene care for special needs patients will include the areas of communication, appointment planning, environmental considerations, home care, and safety precautions in treatment. DENT PUB HLTH

152. Introduction to Research. (1) Sp. Prerequisite: To be taken concurrently with Dental Public Health and Hygiene 121. Lecture 1 hour.
Poupard
Concomitant with Dental Public Health and Hygiene 121, each student will prepare an annotated bibliography on a research topic of choice. DENT PUB HLTH

153A-B. Clinical Dental Hygiene Seminar. (1-1) F, W. Prerequisite: DH 153A is prerequisite to DH 153B. Seminar 1 hour.
Heckman
Seminar to discuss the dental hygiene process as applied to dental hygiene care. Each seminar will provide an orientation to each of the techniques/skills taught as part of dental hygiene practice in DH 155A&B (Clinical/Lab application). Armamentarium, sequential steps for technique performance as well as specific criteria for performance evaluation are included. DENT PUB HLTH

153C. Clinical Dental Hyg Care Seminar. (1) Sp. Seminar 1 hour.
Heckman
Seminar discussions will focus on code of conduct, patient care responsibilities, patient records, financial policies, emergency procedures, infection control protocols, clinic administrative policies/procedures and patient care, and issues related to clinical dental hygiene care. DH 153 is a series F-W-S: DH 153C is different from its precedents inasmuch as DH 153A-B are preclinical seminars, and DH 153C is a clinical seminar. DENT PUB HLTH

155A. Intro to Clinical Dental Hygiene. (2) F. Lab 6 hours.
Heckman
Laboratory and clinical experiences in patient assessment, care planning, goal setting, and implementation of instrumentation techniques for providing prevention-oriented dental hygiene care. Post-treatment evaluation is also emphasized. DENT PUB HLTH

155B. Intro to Clin Dental Hygiene Care. (2) W. Prerequisite: DH 155A. Lab 6 hours.
Heckman
Continuation of lab and clinical experiences in patient assessments with greater emphasis on dental hygiene care, planning, goal setting, case presentation, and implementation of instrumentation techniques for

providing prevention-oriented dental hygiene care and non-surgical periodontal therapy. Dental hygiene care evaluation is also emphasized as an essential component of the dental hygiene process. DENT PUB HLTH

159. Clinical Dental Hygiene Care. (2) Sp. Prerequisite: DH 155A-B. Clinic 6 hours.
Heckman
Clinical application of the dental hygiene process for delivering patient-centered dental hygiene care incorporating a human needs theory framework. Patient care resonsibilities will include prevention-oriented dental hygiene care and non-surgical periodontal therapy. Improved proficiency in assessment, planning, goal setting, implementation, and evaluation of patient care and associated professional resonsibilities will be emphasized. DENT PUB HLTH

160. Ethics and Jurisprudence. (1) W. Lecture 1 hour.
Hannebrink
Introduction to the ethical, legal, and professional responsibilities of the dental hygienist. Emphasis on the California Dental Practice Act, malpractice prevention, and professional organizations. IDENT PUB HLTH

161. Orientation to Dentistry. (2) S. Lecture 2 hours.
Miyasaki
Orientation to the various specialties and areas in the field such as dental transplantations, orthodontics, oral surgery, craniofacial anomalies, maxillofacial rehabilitation, and removable and fixed prosthodontics. This course is intrended to help prepare dental hygiene students to be more knowledgeable and informed so that each patient can receive the finest care possible according to his/her respective needs. DENT PUB HLTH

162B-C. Research Design. (0-4) W, Sp. Lecture 1 hour.
Poupard
Continuation of Dental Hygiene 162A. Implementation of a research project and preparation for publishing, table clinic or poster session. DENT PUB HLTH

163.01. Comprehensive Dental Hygiene Care. (2) F. Lecture 2 hours.
M. Walsh
Study and integration of additional clinical procedures into the dental hygiene process to insure and enhance quality comprehensive dental hygiene care. DENT PUB HLTH

163.02. Comprehensive Dental Hygiene Care. (1) Sp. Prerequisite: DH 163.01. Lecture 1 hour.
D. Perry
Continuation of the study and integration of additional clinical procedures into the dental hygiene process to insure and enhance quality comprehensive dental hygiene care. DENT PUB HLTH

164. Clinical Dental Hygiene Seminar. (0-3) F, W, Sp. Prerequisite: Second-year dental hygiene standing. Seminar 1 hour.
M. Walsh, Heckman
Clinical seminar to discuss clinic policies and procedures, dental hygiene treatment planning, and related topics. DENT PUB HLTH

166. Expanded Clinical Functions (2) F. Lecture 1 hour, Lab 3 hours.
Hannebrink
Study of the anatomical, physiological, pharmacological, and periodontal aspects of the administration of local anesthetics, nitrous oxide-oxygen sedation, and performance of soft tissue curettage. Students obtain didactic and clinical experiences in these functions. DENT PUB HLTH

169A-B-C. Compr Clinical Dental Hygiene Care. (4-5-5) F, W, Sp. Prerequisite: Dental Hygiene 150.01, 150.02, 150.03, 150.04, 155A, 154.01, 154.02, 154.03, 159. Concurrent enrollment in Dental Hygiene 169. Clinic 12 hours F; 15 hours W, Sp.
M Walsh, Heckman
Assessment of patient histories and signs of deviation from normal in the oral-facial complex, and planning, implementing and evaluating comprehensive dental hygiene care within a human needs framework. Includes advanced techniques of periodontal nonsurgical and maintenance therapy, pain control, gingival curettage, for the periodontitis-affected patient. DENT PUB HLTH

182. Research Design. (0-2) F. Prerequisite: DH 152.
Poupard, M. Walsh
Fundamentals of research design and the scientific method. Each student will expand his/her experiences from DH 152 and prepare a research protocol. DENT PUB HLTH

189. Independent Study. (0-4) F, W, Sp. Prerequisite: Second-year standing in dental hygiene and consent of instructor.
Poupard
Students select an area of interest for independent study or research. These may include clinical, community, educational, institutional, or other areas. DENT PUB HLTH

189.01. Mobile Clinic. (0-3) SS. Clinic variable.
R. Miller
Clinical experience in mobile dental clinics. DENT PUB HLTH

189.02. Community Health Clinic. (0-2) F, W, Sp. Prerequisite: Winter or spring quarter standing of first-year dental hygiene curriculum; or fall, winter or spring quarter standing of second-year dental hygiene curriculum.
Walsh
One-half unit of credit for every five three-hour visits made to off-campus clinics or institutions. Objective

is to secure community experience and involvement. This elective is above the required eight visits to off-campus clinics and institutions. DENT PUB HLTH

199. Laboratory Project. (1-5) F, W, Sp. Lecture 1 hour. Lab 0-12 hours.
Walsh
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. DENT PUB HLTH

201A-B-C. Current Topics I. (1-1-1) § F, W, Sp. Seminar 1 hour.
Walsh, Ishida
A seminar series for dental hygiene students enrolled in the Master's Program in Oral Biology with a special track in Dental Hygiene. Included are issues and research related to dental hygiene in a systematic manner. Current literature will be critically reviewed by students under faculty supervision, by faculty, or guest lecturers. DENT PUB HLTH

202. Curriculum Theory and Design in Dental Hygiene. (3) § F. Lecture 3 hours.
Walsh
Analysis of theories and research in education, with an emphasis on curriculum development, teaching strategies and evaluation methods for use in planning educational programs in schools of dental hygiene. DENT PUB HLTH

203A-B-C. Current Topics II. (1-1-1) § F, W, Sp. Prerequisite: DH 201A-B-C. Seminar 1 hour.
Walsh, Ishida
A seminar series for dental hygiene students enrolled in the Master's Program in Oral Biology with a special track in Dental Hygiene. Included are issues and research related to dental hygiene in a systematic manner. Current literature will be critically reviewed by students under faculty supervision, by faculty, or guest lecturers. DENT PUB HLTH

301. Teaching Practicum in Dental Hygiene Education. (1) § F, W, Sp. Prerequisite: Dental Hygiene 202. Lab 3 hours.
Walsh
Practical teaching experiences in selected dental hygiene courses under the supervision of dental hygiene faculty members. DENT PUB HLTH

Dental Jurisprudence

180. Dental Jurisprudence. (1) W. Lecture 1 hour.
F. Bradley
The course broadens student insight into the legal problems and obligations of dental practice. DENT PUB HLTH

Dental Practice Management

130. Dental Personnel & Patient Management. (1) Sp. Lecture 1 hour.
Bird
Provides skills in communicating effectively with employees, patients, and others associated with the practice of dentistry. Personnel management, recruitment, retention, benefits and patient management, legal responsibilities, financial arrangements are covered. DENT PUB HLTH

186. Adv Dental Practice Management. (1.5) W, Sp. Prerequisite: DPH&H 121; Dentistry 4 Dean's course - Fall quarter, or permission of instructor. Class size limited to 15 per quarter. Lab 1 hour, seminar 1.5 hours.
Bird
Advanced concepts of dental practice management utilizing dental practice case studies, computer simulations and practice analysis techniques, and independent field study of an ongoing dental practice. Computer Lab training will be included. DENT PUB HLTH

Dental Public Health and Hygiene

116. Epidemiology & Preventive Dentistry. (1.5) F. Lecture 1 hour. Lab 2 hours.
Pollick and Staff
Lectures and lab in preventive dentistry; plaque control; diet analysis, fluoride history; evaluation indices; dental health and disease in children; data analysis; dental screening in San Francisco schools; dental health education. DENT PUB HLTH

117. Professional Issues in Dentistry. (6.5) F. Lecture and seminar 16 hours.
Wycoff, Gerbert, Pollick, Scherwitz, S. Silverstein, M. Walsh
Lectures and seminars on professional issues in dentistry. Topics included are: modes of practice, dental needs of special groups, stress management, drug use/abuse, preventive dentistry and research design, ethics and history of dentistry. DENT PUB HLTH

120. Behavioral Sciences. (1) F. Lecture 1 hour.
Gelbert
Introduction to the basic concepts, theories, and findings 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. DENT PUB HLTH

130. Dental Personnel & Patient Management. (1) Sp. Lecture 1 hour.
Bird
Provides skills in communicating effectively with employees, patients, and others associated with the practice of dentistry. Personnel management, recruitment, retention, benefits and patient management, legal responsibilities, financial arrangements are covered. DENT PUB HLTH

140A-B-C. Multidisciplinary Topics in Dentistry. (0-0-6) F, W, Sp. Prerequisite: Senior dental student. 20 hours per week for 3 weeks.
Bird and Staff

A comprehensive course designed for fourth-year students. Reinforces significant aspects of clinical and biomedical sciences, bioethics, and dental practice management, and updates students on new developments in dentistry. DENT PUB HLTH

150. Dental Morphology. (2) F. Prerequisite: Concurrent enrollment in Dental Hygiene 150A. Lecture 2 hours.
Wong
The development and form of deciduous and permanent dentition and occlusion. Study of individual tooth and arch form to interarch relationships as well as endodontic morphology. DENT PUB HLTH

175. Dental Public Health Practice & Clinic. (1-9) Su, F, W, Sp. Prerequisite: Postgraduate standing and permission of instructor.
Silverstein and Staff
To provide the dental public health residents with the opportunity to participate in the Family and Preventive Dental Service. They will learn about marketing strategies, computer billing services, office management, expanded function dental auxiliaries, and the delivery of preventive dental services. DENT PUB HLTH

186. Adv Dental Practice Management. (1.5) W, Sp. Prerequisite: DPH&H 121; Dent 4 Dean's Course (Fall quarter) or consent of instructor. Lab 1 hour, seminar 1.5 hours, field work 1 hour.
W. Bird
Advanced concepts of dental practice management using dental practice case studies, computer simulations and practice analysis techniques, and independent field study of an ongoing dental practice. Computer Lab training will be included. DENT PUB HLTH

187. Multidisciplinary Geriatric Care. (1.5-2.5) F, W, Sp.Lecture 2 hours, Clinic 3 hours, Field work 2 hours, Observation 2 hours optional.
Shen, Finley, Salisbury, Mitteness, Yatabe, DiMinno
A seminar and clinical rotation in which the students function as members of a multidisciplinary health care team. The students evaluate geriatric patients and formulate comprehensive treatment plans. Seminar topics include functional assessment, home assessment, social resources and dental management. DENT PUB HLTH

189. Research Methods and Design in the Behavioral Sciences: Seminar and Practice. (1) F, W, Sp. Seminar 1 hour.
Gerbert, Wycoff
A seminar course designed to provide an overview of research designs, data collection strategies, methods of collecting and interpreting data, and assessment of threats to validity. Hypothesis development, protocol preparation, and grant writing will also be included. DENT PUB HLTH

Dental Technics

185. Intro to Basic Dental Technics. (2) SS4. Lab 18 hours for three weeks.
Hoskins
Technical orientation to the basic technics taught in the first year of dentistry such as morphology, prosthodontics, biomaterials, operative dentistry. RESTOR DENT

Dermatology

First-Year Coordinated Instruction—Medicine

131A-B-C. Lecture demonstrations and section work devoted to the supervised examination of patients. Core Clerkship–Family and Community Medicine 110 includes lectures and case demonstrations on the examination and diagnosis of dermatological diseases. This includes instruction in physical diagnosis, history-taking, and diagnostic and therapeutic procedures.

140.01. Advanced Dermatology Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Odom
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. DERMATOL

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Wintroub
Clinical clerkship in approved hospitals by special arrangement and approval of the dean and chairperson of the department. DERMATOL

140.03. Advanced Dermatology Clerkship–Fresno. (1.5 per week) Su, F, W. Sp. Prerequisite: Medicine 110 and consent of instructor.
Hamlin
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. DERMATOL

140.04. Inpatient Clinical Dermatology. (1.5 per week) Su, F, W, Sp. Prerequisite: Dermatology 140.01.
Odom, Wintroub, Resnick
Four-week block rotation. Students will work with inpatient Dermatology resident and share primary responsibility for inpatients, hospital consultations and psoriasis day care center patients. DERMATOL

140.05. Advanced Clinical Dermatology. (1.5 per week) Su, F, W, Sp. Prerequisite: Dermatology 140.01.
Odom, Wintroub, Resnick

Students will function as clinical clerks with primary responsibility for patients seen in an outpatient clinical setting. Responsibilities will include diagnosis, patient management, and therapy of common cutaneous diseases. Course duration is four weeks. DERMATOL

150.01. Dermatology Research. (0.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Wintroub
A research project under the direction of a member of the faculty. DERMATOL

160.01. Clinical & Research Clerkship. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.
Wintroub
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. DERMATOL

199. Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor.
Wintroub
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. DERMATOL

400. Staff Conference. (2) F, W, Sp.
Wintroub and Staff
Residents prepare and present case histories of patients at conferences, making reference to appropriate literature, special studies and laboratory work. Conferences include discussions of new developments and research investigation by staff members and faculty from other UC departments and other universities. DERMATOL

401. Dermatopathology. (2) Su, F, W, Sp. Lecture 2 hours.
LeBoit
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 discussions of material presented. DERMATOL

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

403. Specialty Seminar. (2) F, W, Sp. Seminar 2 hours.
Wintroub and Staff
Seminars include discussions, required reading, and reports on dermatology and related basic sciences such as embryology, mycology, histopathology, and parasitology in relation to dermatologic conditions; and oncology as it relates to the skin. DERMATOL

404. Clinical Evaluation. (1) F, W, Sp. Seminar 1 hour.
Wintroub and Staff
Seminar involves the evaluation of recent clinical cases of special interest. Cases are presented by the faculty and resident staff. DERMATOL

405. Research. (3) Su, F, W, Sp. Lab 9 hours.
Wintroub
Instruction in the conduct of research projects dealing with electron microscopy, biology, biochemistry, and immunology of the skin under normal and pathological conditions. DERMATOL

406. Related Science Seminar. (10) Su, F, W, Sp. Seminar 1 hour.
Wintroub and Staff
In-depth discussion of the sciences basic to an understanding of the function and dysfunction of skin, including anatomy, physiology, microbiology, pharmacology, biochemistry, genetics, and pathology. Over a three-year period, course covers all aspects of basic sciences relevant to dermatology. DERMATOL

407. Cutaneous Microbiology. (2) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
Aly
Course is designed to familiarize dermatology residents with the techniques of isolation and identification of dermatophytes, skin bacteria, and viruses. Occasional lectures on specialized topics are given. DERMATOL

450. Clinical Care Clerkship. (10) Su, F, W, Sp.
Wintroub and staff
Residents, under supervision, are responsible for patient care in the wards and outpatient clinic. Duties include history-taking, physical examinations, and consultations. In addition, the senior resident has certain administrative, teaching, and clinical responsibilities. DERMATOL

451. Clinical Care Clerkship. (1.5 per week) Su, F, W, Sp.
Wintroub
Residents, under supervision, are responsible for patient care in the wards and outpatient clinic. Duties include history-taking, physical examinations, and consultation. In addition, the senior resident has certain administrative, teaching, and clinical responsibilities. DERMATOL

452. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Wintroub
Assistant residents work at off-campus hospitals, in the United States and other countries, approved by the dean and the chairperson of the department. Course includes training in clinical and investigative dermatology. DERMATOL

Endocrinology

Courses in Endocrinology are offered through various departments. For further information regarding any of them, contact the instructor in charge or Dr. Zach Hall, Chair, Department of Physiology, Interdisciplinary Program in Endocrinology. See also Biochemistry course offerings.

150.01. Research. (1.5 per week) F, W, Sp. Prerequisite: Consent of instructor.
Staff
Individual research in endocrinology supervised by members of the faculty in the Interdisciplinary Group in Endocrinology. PHYSIOLOGY

198. Supervised Study. (1-5) § Su, F, W, Sp. Prerequisite: Consent of instructor.
Dallman
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. PHYSIOLOGY

199. Laboratory Project. (1-5) § Su, F, W, Sp. Prerequisite: Consent of instructor.
Ganong
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. PHYSIOLOGY

202. Mechanisms of Hormone Action. (3) § Sp. Prerequisite: Physiology 101 and/or Human Biology 200A and 200B, or Biochemistry 100A-B, or consent of instructor. Lecture 2 hours plus independent study.
Nissenson, Bourne
Course covers classical and current literature concerning known and speculative mechanisms of hormone action. Major topics are: G proteins, adenylate cyclase, Ca^{++} as a second messenger, oncogenes, growth factors, and steroid hormone action. PHYSIOLOGY

203. General Endocrinology. (5) § F. Prerequisite: Consent of instructor.Lecture 3 hours, Lab 3 hours, Seminar 1 hour.
Dallman, Weiner
A survey of the principles of endocrinology focusing on experimental approaches. The course includes lectures, reading of the primary literature and a laboratory problem. PHYSIOLOGY

209. Molecular Endocrinology. (4) § W. Prerequisite: Knowledge of biochemistry. Will not be given for less than 5 students. Offered in alternate years. Not offered 1990-91. Lecture 4 hours.
W. Miller
Application of recombinant DNA to study endocrine systems. Topics include basic molecular biology, cloning methods, RNA and DNA analysis, gene structure, and experimental design. Objective is to provide a working knowledge of molecular approaches to endocrine problems. PHYSIOLOGY

210. Clinical Endocrinology Seminar. (1) § F, W, Sp.
Shoback
Clinical and basic seminar in endocrinology presented in a format which provides both lecture and discussion. Emphasis is placed on clinical applications of research at the frontier of modern endocrinology. PHYSIOLOGY

250. Research. (1-8) § F, W, Sp.
Hall
PHYSIOLOGY

Epidemiology and Biostatistics

100. Medical Parasitology. (2) Sp. Prerequisite: Microbiology 100 (without parasitology) or equivalent, or concurrent enrollment. Lecture 2 hours.
Heyneman
An introduction to protozoa and helminths and human diseases they produce. Parasite epidemiology and life cycles, diagnosis, clinical aspects, treatment, and control are considered in lectures, films, and Kodachrome slides. Laboratory demonstrations keyed to lectures are displayed throughout the week. EPID & BIOSTAT

101. Fundamentals of Epidemiology. (3) Sp. Lecture 2 hours. Seminar 1 hour.
Ernster, Petrakis
Basic epidemiologic and biostatistical methods. Emphasis is on the design of clinical trials and studies to investigate disease etiology, methods for evaluating screening and diagnostic tests, skills for critical review of the medical literature, and assessment of patient risk factors for use in clinical practice. EPID & BIOSTAT

140.02A. Clinical Clerkship Abroad. (1.5 per week) Su, F, W, Sp. Prerequisite: Nine months of clinical work and Epidemiology and International Health 150.01, or consent of instructor.
R. Goldsmith, Braveman, S. Lane
Clinical clerkship elective in a developing country. Students provide patient care at a medical school, provincial hospital, or rural health clinic for eight to twelve weeks. Arrangements may be made to participate in a public health or research program abroad. EPID & BIOSTAT

140.02B. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of chairperson of department.
Petrakis and Staff
Clerkships in clinical epidemiology in off-campus settings. EPID & BIOSTAT

140.03. Leprosy. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and consent of instructor.
Gelber
An introductory course in the diagnosis and care of leprosy patients. Selected readings will be discussed on the clinical presentation, therapy, and immunology of leprosy. Additional time on the service, with increasing clinical responsibility, may be arranged. EPID & BIOSTAT

140.04. Refugee Screening Clinic–SFGH.(1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, Pediatrics 110, and consent of instructor.
De Lay
Diagnosis and treatment of refugees from culturally diverse populations. Clinical experience with variety of tropical diseases and medical problems in family practice associated with these cultures. Guided reading and possible attendance at Tropical Medicine-Diseases Clinics, UCSF, and Leprosy Clinic, SMC. EPID & BIOSTAT

150.01. Medicine in Developing Countries. (1.5 per week) W. Prerequisite: Epidemiology and International Health 100 or consent of instructor.
R. Goldsmith
Two-week block elective on the recognition and treatment of diseases of tropical and developing countries. The course is designed to prepare students for clerkships abroad in developing countries. Presentation format includes lectures, seminars, films, laboratory sessions, and supervised independent study. EPID & BIOSTAT

150.02. Research Abroad. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
F. Dunn and Staff
Research abroad, usually in a developing country, under supervision of a member of the Epidemiology and International Health faculty. Guidance is available principally for epidemiological studies and for research in tropical medicine, medical parasitology, medical anthropology, and topics in international health. EPID & BIOSTAT

160.01. Cancer Epidemiology. (1-2) W. Prerequisite: Epidemiology and International Health 101 or consent of instructor. Lecture 1 hour. Optional term paper for 2 units.
Petrakis and Staff
Survey and discussion of milestone papers in the knowledge of the epidemiology of the major sites of cancer. Emphasis is on etiological and methodological aspects and applications to prevention. EPID & BIOSTAT

170.05. Intro to International Health. (2) W. Lecture 2 hours.
F. Dunn and Staff
Lectures and discussion to survey the history, organizational structure, major activities and topics that comprise the field of international health. EPID & BIOSTAT

170.07. Leprosy Laboratory Project. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.
Gelber
A laboratory research problem of leprosy under the guidance of a member of the staff of the Leprosy Research Unit at Seton Medical Center. The unit's major research areas are the pharmacology, immunology, and chemotherapy of leprosy in animals and man. EPID & BIOSTAT

170.08. International Health Policy. (2) Sp. Lecture 2 hours.
P. Lee, F. Dunn, J. Justice
Lectures and discussions to examine topics and issues in international health at the level of policy. EPID & BIOSTAT

170.09. Psychiatric Epidemiology. (1-2) F. Prerequisite: Training in epidemiology and consent of instructor. Lecture 1 hour. Optional term paper for 2 units.
F. Dunn
Survey of epidemiological and medical ecological approaches–historical and contemporary—to understanding of psychiatric disorders. EPID & BIOSTAT

170.10. Occupational Epidemiology. (1-2) W. Prerequisite: Epidemiology and International Health 101 or 190. Seminar 1 hour. Optional term paper for 2 units.
Mustacchi
Seminars on selected topics in occupationally-related diseases with specific emphasis on their epidemiologic, preventive, and compensation aspects. Discussion, with examples, of the concept of disability and of the physician's basic role and responsibilities in determining its level. EPID & BIOSTAT

170.11. Journalism for Health Sci Students. (2) F. Seminar 2 hours.
Gastel, Gardner
This elective is designed to introduce UCSF students to pertinent aspects of the craft of journalism. It includes discussions of basic skills and issues, guest sessions featuring science journalists, and workshops where class members discuss writing samples. Each student is required to write two articles. EPID & BIOSTAT

180.01. Tropical Medicine Clinics. (1-2) § Su, F, W, Sp. Prerequisite: Epidemiology and International Health 100 and six months of clinical experience. Clinic 4-8 hours.
R. Goldsmith, Frierson and Staff
Examination and treatment of patients in the Tropical Medicine Clinics under staff supervision. The clinics operate in conjunction with the Infectious Diseases Service; patients seen have both parasitic and other infectious diseases. EPID & BIOSTAT

180.04. Research Design. (2-3) § Sp, SS1, F, W. Prerequisite: Consent of instructor. Seminar 2 hours. Optional term paper for 3 units.
Hulley
Primary readings on diverse clinical topics from the recent literature will be discussed. The objective is to enhance skills in interpreting and designing clinical research. Major themes are the difficulty of demonstrating cause and effect, and the challenge of guiding health policy. EPID & BIOSTAT

180.05. Maternal & Child Hlth-Devel Cntr. (1-2) § Sp. Lecture and discussion 1 hour. Optional term paper for 2 units.
Arnhold

Lectures and discussion to review major factors affecting maternal and child health in developing countries, including the impact of poverty, nutrition, infectious diseases, immunization, organization of ambulatory care, setting of priorities, and utilization of local people as health auxiliaries. EPID & BIOSTAT

180.07. Environmentally Induced Disease. (1) Sp. Lecture 1 hour.
Tarcher
A lecture series on the cause, diagnosis, treatment and prevention of environmentally induced disease. Topics include pesticides, hazardous wastes, indoor and outdoor air pollution, water pollution, susceptible populations, and the relationship of nutrition to environmentally induced disease. EPID & BIOSTAT

180.08. Epidemiology. (2) § Sp. Seminar 2 hours, plus student presentation.
A. R. Moss
Topics in epidemiology and epidemio-logical methods from the public policy point of view, including risks associated with low level radiation, and environmental and occupational carcinogenesis. Other topics may include the decline of heart disease and the politics of environmental epidemiology. EPID & BIOSTAT

186. Tropical Medicine Lectures. (1) § Sp. Lecture 1 hour.
R. Goldsmith
Lectures, case histories, and films emphasizing diagnosis and treatment of tropical diseases including malaria, amebiasis, cholera, typhoid, schistosomiasis, leprosy and arbo-virus infections, plus a review of opportunities for clinical clerkships abroad in developing countries. EPID & BIOSTAT

190. Introduction to Epidemiology. (3) § Su, F, W, Sp. Lecture 3 hours.
Staff
Introduction to the principles and methods used in epidemiology. Elements of research study design, critical analysis of journal articles, and application of epidemiological methods to common health risks in populations will be included. EPID & BIOSTAT

198. Supervised Study. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Library research and directed reading under supervision of a member of the faculty. EPID & BIOSTAT

199. Laboratory Project. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
A laboratory research project under direction of a member of the faculty. EPID & BIOSTAT

Family and Community Medicine

110. FM Core Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of 20 weeks of clinical clerkship including Medicine 110.
Rodnick, D. Mitchell
Students function as family/primary physicians in ambulatory settings at affiliated residency programs. Family Practice: at SFGH, CHS in Santa Rosa, NAT in Salinas, VMC in Fresno, and SHH at Fort Ord. Primary Care Internal Medicine: at UC, SFGH, and MZ. FAM CM MED

140.01A-B-C-D. Advanced Family Practice. (1.5 per week) A, B, C, and D are offered in all of the following quarters: Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
A-**Schott,** B-**Patinkin,** C-**Weaver, Slater,** D-**Rodnick, Mitchell**
A-VMC in Fresno; B-NAT in Salinas; C–CHS in Santa Rosa; D–other sites. Comprehensive inpatient and outpatient experience in family practice. Students assume sub-intern responsibility for patient care. Community assignments may be individually arranged. FAM CM MED

140.02. Community Health Programs. (1.5 per week) Su, F, W, Sp. Prerequisite: Determined by student's clinical experience. Consent of instructor.
Barbaccia and Staff
Elective clinical experience for four or more weeks in various community health projects in California and out of state as well. Programs include Indian Health Service, Diabetic Summer Camp, Asian Health Service, and varied neighborhood clinics. FAM CM MED

140.03. Preventive Medicine Field Work. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing in School of Medicine and consent of instructor.
Petitti
The student will be assigned to participate four days a week in patient care with a physician who emphasizes the integration of preventive medicine into clinical practice. One day of directed reading supervised by a member of the faculty. FAM CM MED

140.04. Family Practice Preceptorship. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
S. Lane
Students work with a family physician, alternatively general internist or general pediatrician, in the office, observing the practice and performing duties as training permits. Experience will teach common health problems and primary care in a community. Rural preceptorships are encouraged. FAM CM MED

140.05A-B-C-D. Social Medicine. (1.5 per week) F, W, Sp, Su. Prerequisite: Consent of instructor.
Barbaccia

Field work experience or research germane to social medicine individually arranged with consideration to student's major area of interest. FAM CM MED

140.06A-B-C. Rehabilitation Medicine. (1.5 per week) A, B, and C are offered in all of the following quarters: Su, F, W, Sp. Prerequisite: Consent of instructor.
L. Crain
A–San Francisco Bay Area; B–Fresno; C–other sites. Students are assigned to rehabilitation facilities for two to four weeks. Emphasis will be on the selection of patients who are suitable for rehabilitation and the interprofessional approach to rehabilitation. FAM CM MED

140.07. Adv Family Prac Preceptorship. (1.5 per week) Su, F, W, Sp. Prerequisite: Advanced medical school standing and consent of instructor.
S. Lane
Students select from several urban or rural sites. Experience provides students the opportunity to participate in the care of patients and their families at the physician's practice, local hospital, and emergency room. FAM CM MED

140.40. Adv Inpatient Fam Med Clkshp. (1.5 per week) Su, F, W, Sp. Prerequisite: Senior medicine clerkship.
R. Goldschmidt, M. Johnson
The Family Practice Inpatient Service at SFGH employs the family practice approach to hospitalized adult patients with diverse medical problems. Students function as members of the multidisciplinary inpatient team at a junior intern level. Attending rounds are held daily. FAM CM MED

140.51. Emergency Medicine–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, Obstetrics and Gynecology 110, Pediatrics 110 and Surgery 110.
F. Walter
Students receive practical training in emergency medicine, in emergency prehospital care, and also in the care of the critically ill and injured patient in the emergency room. Daily emergency medicine case conferences and weekly conferences augment clinical experience. FAM CM MED

140.52. Rural Family Practice–Selma. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, Surgery 110, Pediatrics 110, Ob/Gyn 110.
Zweifler, Dzvonik
Primary care at Selma Community Health Center, in an agricultural community near Fresno. Ambulatory practice includes pediatrics, obstetrics, gynecology, and chronic diseases. Includes patient rounds, deliveries, and emergency room experience at modern rural hospital. Exposure to rural private family practice available. FAM CM MED

140.53. Inpatient Medicine/Family Practice. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, FCM 110, fourth-year standing.
Heiligman, Nowlis, McCann
Students function as subinterns on general medicine ward staffed by Family Practice residents and faculty. Acute medical care is provided with special input from department psychologist and health educator. FAM CM MED

140.60A-B-C-D. Clinical Geriatrics. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Neurology 110 and consent of instructor.
Barbaccia, Werdegar and Staff
A–San Francisco; B–Fresno; C–St. Mary's; D–Other. Students supervised by attending staff are assigned patients in clinical settings; outpatient departments, adult day centers, nursing homes, acute hospital; also home care. Students will attend multidisciplinary case conferences, didactic sessions, geriatrics consultation rounds. FAM CM MED

140.70. Community Medicine in International Perspective. (1.5 per week) Su, F, W, Sp. Prerequisite: Conversational command of language of country of placement and consent of instructor.
Braveman, Goldsmith, Petitti
A 4-12 week elective involving placement at a supervised primary care training and/or service site abroad. Placements will be made according to student interest and language capability, and according to availability of appropriately supervised sites, mainly in Latin America. FAM CM MED

150.01. Research. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Rodnick, Barbaccia and Staff
Clinical epidemiology, health services, or behavioral science research approaches are applied in the study of selected areas in family medicine or community health. FAM CM MED

160.01. Community Medicine Field Work. (1.5-3) Su, F, W, Sp. Prerequisite: Medical student standing. Consent of instructor. Field work 4-8 hours.
Barbaccia
Non-block assignments to community health agencies where students have patient contact. Students choose an aspect of the agency's program for analysis. FAM CM MED

160.02. Family Practice Continuity. (2) Su, F, W, Sp. Prerequisite: Consent of instructor. Course must be taken for one full academic year.
R. Goldschmidt
Course will provide students the opportunity to follow a small number of patients and families in non-scheduled time during any medical school year. Attempts will be made to select families of special interest to the student; e.g., prenatal, adolescent, geriatric, minority. FAM CM MED

160.03. Family Practice Preceptorship. (1-3) Su, F, W, Sp. Prerequisite: Medical student standing. Consent of instructor. Field work 4-12 hours.
S. Lane
Non-block assignment with a family physician in a private office or community clinic for a minimum of

four hours a week. Pre-clinical students observe their preceptors in order to gain an introduction to family care. FAM CM MED

160.04A-B. Sports Medicine. (2-2) F. Open only to students in School of Medicine or graduate students in School of Nursing. Lecture 2 hours, optional 4 hours clinic.
Renner
Athletic medicine ranging from youth athletics to senior participation. Emphasizes evaluation and prevention of injury, conditioning, and rehabilitation, directed at the community. Course consists of lectures and optional field work. FAM CM MED

160.04B. Advanced Sports Medicine. (2) W. Prerequisite: Family and Community Medicine 160.04A. Medical students only. Lecture 2 hours. Lab optional 1 hour.
Renner
Diagnosis, treatment, and rehabilitation of specific athletic injuries organized by anatomical areas, basically of the non-elite athlete. Emphasis on non-surgical treatment per European and American techniques using community resources and prompt surgical referral when necessary. FAM CM MED

160.05. Mission Community Hlth Elective. (1-3) Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 2-6 hours. Field work 2-8 hours.
D. Sanchez, D. Fink
Explores health care attitudes, health problems and health care resources in the multi-ethnic Mission Area of San Francisco. Students receive clinical assignments in one or more community health and social service agencies. Field experience is analyzed in seminars and tutorials. FAM CM MED

160.07. Family Health & Care. (2) F. Seminar 2 hours.
Ransom, Braveman, Segal
Introductory principles of family medicine are discussed in class and discussion groups led by family physicians and family psychologists. Preceptorships with family physicians in private offices and community clinics. Each student will interview a family and present a case report. FAM CM MED

170.01A-B-C. Special Issues in Health Care. (0-3) A, B, and C are offered in all of the following quarters: Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture and reading 1-3 hours.
Rodnick and Staff
Explores in systematic (lecture/readings/discussion) format new issues in health care or special content areas related to family and community health. Topics are developed and prepared according to faculty student interests. FAM CM MED

170.02. Elderly Community Programs. (2) W. Lecture 1 hour. Conference 2 hours. Enrollment limited.
Barbaccia, Robinson, Weiss
This course offers the student a survey of the aged in San Francisco. Lectures cover the socio-demographic, cultural, and health status factors of the city's aged. On-site conferences are held at representative programs and facilities serving the aged. FAM CM MED

170.03. Developmental Disabilities. (2-5) Su, F, W, Sp. Prerequisite: Consent of instructor. Field work 4-8 hours.
L. Crain
Resource overview with reading assignments correlated with field observations of the spectrum of community and institutional services, including comprehensive diagnostic, therapeutic, and counseling services for children and adults with developmental disabilities. FAM CM MED

170.04. Rehabilitation in Primary Care. (2) Su, F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours.
Byl, Berrol
Course exposes medical and other health science students to the principles of rehabilitation and common therapeutic strategies. Emphasis will be on the development of a basic theoretical foundation on which the student can build clinical rehabilitation skills in practice. FAM CM MED

170.05. Rehabilitation Medicine. (1-5) F, W, Sp. Prerequisite: Consent of instructor. Field work 4-8 hours.
L. Crain
Through individualized arrangements, course provides an introduction to the broad spectrum of rehabilitation services for children and/or adults with chronic or disabling diseases. FAM CM MED

170.07. Communication with Latino Patients. (2) F, W, Sp. Prerequisite: Medical student status. Lecture 2 hours. Lab 1 hour.
Braveman, Koreck, Vasquez-Vega
A practical course designed to develop basic skills in overcoming cultural and linguistic barriers to health care for Spanish-speaking persons. FAM CM MED

171. Computers and Problem Solving with Applications to Health Care. (2) W. Medical students only. Lecture 2 hours.
Rodnick
The nature of information processing; concepts of problem solving with the digital computer; representation of information within a computer system; introduction to programming and systematic programming methodology; examples of present and potential applications of computer systems to the medical environment. FAM CM MED

172A. Legal Medicine–Basic Concepts. (2) F. Lecture 2 hours.
Tennenhouse
Fundamental legal principles and procedures affecting medical practice, with emphasis on medical negligence; the physician's role in the litigation process; the areas of medical practice which most frequently involve litigation; and practical measures to minimize the risk of lawsuit. FAM CM MED

172B. Legal Medicine–Practical Aspects. (2) W. Lecture 2 hours.
Tennenhouse
Fundamental legal principles and procedures affecting medical practice, with emphasis on medical negligence; the physician's role in the litigation process; the areas of medical practice which most frequently involve litigation; and practical measures to minimize the risk of lawsuit. FAM CM MED

173. Family Practice Seminar. (1) W, Sp. Seminar 1 hour.
J. Cook
Exploration of various aspects of primary care as related to family medicine. A practicing family physician leads discussion of topics developed by the students. Introduction to the practical aspects as well as the issues and demands of family practice. FAM CM MED

174. Family Medicine Concepts. (2) W. Seminar 2 hours.
Rodnick
An exploration of the comprehensive role of the family physician in providing longitudinal health care. Students will learn to recognize priorities in patient care, with an emphasis on the patient as a whole person. FAM CM MED

175.01. Meaning of Being a Physician. (1-3) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours.
Guttentag
Exploration of the theoretical premises of Western physicianship; relationship to other disciplines, such as theology and man's spiritual dimension, and other cultural attitudes; trendiness of the holistic approach; dynamics of patient-physician relationship; operational concepts such as the clinical entity. FAM CM MED

175.02. Theoretical Problems of Medicine. (1-3) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours.
Guttentag
Seminar on selected writings and of topics discussed in Family and Community Medicine 175.01. FAM CM MED

180. Intro to Social & Preventive Med. (1-2) F. Lecture and seminar 1-2 hours.
Barbaccia
Lectures and seminars introduce entering students to social, political, economic and environmental factors influencing health of the community and provision of care. Topics include preventive health care, health behavior and formulation of policy. FAM CM MED

180.01. Seminar in Family & Health Research. (2) F, W, Sp. Seminar 2 hours.
L Fisher
Review of theoretical and methodological alternatives for studying the family as a psychosocial unit, within the context of health and illness. FAM CM MED

181. Clinical Preventive Medicine. (2) Sp. Prerequisite: Second-year standing in the School of Medicine. First-year medical students with consent of instructor. Lecture 1 hour. Seminar 1 hour.
Petitti
Lecture-seminar on the basic concepts of preventive medicine, the integration of preventive medicine into clinical practice, the evaluation of preventive strategies in medical care, and the role of the practicing physician in influencing policies on prevention. FAM CM MED

184. Contemporary Issues in Latino Health. (2) Sp. Prerequisite: Medical student status. Seminar 2 hours.
Braveman, Sanchez, Koreck
An introduction to demographic, political/economic, anthropologic and sociologic issues of importance for the health of diverse Latino subcultures in the US. FAM CM MED

185. Health Care Systems. (3) Sp. Lecture 1 hour. Seminar 2 hours.
Barbaccia
Lecture-seminar format is used to cover most 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. FAM CM MED

198. Supervised Study. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.
Werdegar and Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. FAM CM MED

475.01. Western Medical Attitude. (1) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.
Guttentag
An exploration of the theoretical premises on which Western medicine rests: its relationship to other disciplines, the structure of patient-physician relationships, its operational concepts, such as optimal versus inadequate or superfluous examination, the concept of the clinical entity. FAM CM MED

475.02. Theoretical Problems of Clin Med. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.
Guttentag
Seminar on selected writings and of topics discussed in Family and Community Medicine 475.01. FAM CM MED

General Dentistry

109.01. Community Dentistry Rotation. (0-9) F, W, Sp. Prerequisite: Certification of competency by the various departments in the school. Seminar 3 hours. Clinic 24 hours.
Wycoff, Sinclair, M. Garcia

Multi-component rotation including seminars, patient group presentations, specialty grand rounds and comprehensive patient care. Supervised clinic and seminar experience in community setting. Students develop and explore their roles as members of the health care team and learn to meet community needs. DENT PUB HLTH

Genetics

200A. Principles of Genetics. (3) F. Lecture 3 hours.
Kornberg, Herskowitz
In-depth analysis of genetic mechanisms in selected procaryotes, eucaryotes. Topics include genetic exchange (conjugation, generalized and specialized transduction, transformation), recombination (general, site-specific, "illegitimate"), mapping, mutagenesis (induction and consequences), mobile genetic elements, gene expression, meiotic and mitotic segregation, allelism, position effects.
BIOCHEM

215. Laboratory Rotation. (3) F, W, Sp. Lab 9 hours.
Guthrie
A laboratory rotation course to familiarize first-year students with various approaches to research. Students are required to rotate through three different laboratories in at least two subject areas, and give an open seminar at the end of each quarter.
BIOCHEM

220. Current Topics. (0.5) F, W, Sp. Prerequisite: Consent of graduate adviser in genetics. Seminar.
Herskowitz and Staff
Students will lead a discussion on a topic of special interest in genetics. A different faculty member will act as adviser each week. This is a required course each quarter for first- and second-year students in genetics. BIOCHEM

224. Advanced Human Genetics. (1.5) Sp. Lecture 1.5 hours. Offered in alternate years. Not offered 1990-91.
Epstein, Kan, Cox, Gitschier, Packman, Wolff
Course covers topics in current human genetics research, including molecular approaches to the mapping of human chromosomes, molecular analysis of mutant human genes, use of restriction fragment length polymorphisms for linkage analysis and diagnosis, effects of chromosome imbalance, gene therapy, and environmental mutagenesis.
BIOCHEM

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

Growth & Development

110. Normal & Abnormal Craniofacial Dev. (1) F. Lecture 1 hour.
Chierici, S. Fisher, C. Cook, R. Coleman, Kapila
Developmental processes underlying normal and abnormal craniofacial morphogenesis are presented and the biologic basis for congenital malformations are discussed. GR DEVEL

120. Orofacial Functions/Dysfunctions (1) W. Lecture 1 hour.
Chierici, Peterson-Falzone, Kapila
Clinical considerations of normal and abnormal patterns of orofacial function are discussed to provide a basis for diagnosis and prognosis of functional disorders involving the orofacial region. GR DEVEL

122. Oral Physiology. (1.5) F. Lecture 3 hours.
A. Miller
The physiology of the craniofacial region will be taught emphasizing endocrine control of calcium and phosphate, mineralization, salivation and taste, sensory control related to craniomandibular muscles, mastication, swallowing, and characteristics of craniomandibular muscles. GR DEVEL

188. Relevance of Neuromuscular System to Craniofacial Dev (2) F. Prerequisite: Physiology. Enrollment limited to senior dental students and postdoctoral graduate students in orthodontics, pediatric dentistry, removable prosthodontics.
A. Miller
Course illustrates how the neuromuscular system of the craniomandibular region affects and interacts with craniofacial development by modifying its function, diet, force development, impairing its development and function, and altering occlusion. GR DEVEL

Health Sciences Education

200. Intro to Teaching Health Science. (1) F. Prerequisite: Consent of instructor. Lecture 2 hours.
Lem
The course focuses on instructional techniques and strategies useful for the beginning instructor. Emphasis is placed on teaching professional students in the School of Pharmacy. Open to graduate students, residents and new faculty. PHARMACY

230. Selected Topics. (2) F, W, Sp. Project required. Lecture 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.
MEDICINE

310. Eval of Clinical Performance. (2) F, W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.
Rosinski
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. MEDICINE

History of Health Sciences

150. History of Pharmacy. (2 or 3) F. Lecture 2 hours; term paper (optional) for 3 units.
Sadee
Emphasis is on the historical development of pharmacy, its relationship to other health professions, and the personalities who significantly contributed to the advancement of health care. HIST HL SC

150.01. Issues in American Medical Practice. (3) F, W, Sp. Prerequisite: Third- or fourth-year standing and consent of instructor. Seminar 3 hours. Research project required.
Risse
Two-week non-clinical block devoted to reading, library research, discussions and presentations on the historical development of topics considered central to the practice of medicine: character of scientific medicine, role of technology, medical ethics and malpractice, corporate medicine, and the physician-patient relationship. HIST HL SC

170.01. Historical Perspectives in Medicine. (1-3) F, Sp. Lecture 1 hour. Optional seminar, conference, or independent study 1-2 hours.
Risse, Pressman
Course intends to develop a sense of historical perspective and the ability to assess present issues in the light of past experience. Readings and visual aids will focus on the scientific and social aspects of the health sciences. HIST HL SC

180. Topics in the History of Dentistry. (2-4) W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Seminar 1 hour. Term paper, independent study optional.
Staff
Presentation and historical analysis of issues and problems considered critical in the evolution of modern dentistry. Among the subjects to be considered are the relationship with other health professions, medical technology, and social policy. HIST HL SC

198. Supervised Study. (1-5) F, W, Sp. Prerequisite: Consent of instructor.
Risse and Staff
Historical research and/or directed reading under supervision of a faculty member with approval of the department chairperson. HIST HL SC

200A. Introduction to Medical History. (2-4) F. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).
Risse
General survey chronologically arranged from prehistory to the Renaissance. This course examines the changing burden of disease across cultural and geographic boundaries and presents broad conceptual developments that in each period influenced the evolution of medical knowledge and professional activities. HIST HL SC

200B. Introduction to Medical History. (2-4) W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).
Pressman
Continuation of the general survey from the Renaissance to the end of the eighteenth century with special emphasis on the mechanical revolution in medical thought and the medicalization of European society. HIST HL SC

200C. Introduction to Medical History. (2-4) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).
Pressman
Continuation of the general survey from the nineteenth century to the present, examining in detail the emergence of scientific medicine, germ theory, medical technology, and twentieth-century therapeutics. HIST HL SC

201A. Health and Plagues: Ecology and History. (2-4) F. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour. Term paper (optional).
Risse
General overview of health conditions across cultural and geographic boundaries from prehistory to the Renaissance, including leprosy and the Black Death. The focus will be on factors, both biological and social, responsible for the shifting ecology of disease. HIST HL SC

201B. Health and Plagues: Ecology and History. (2-4) W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour. Term paper (optional).
Pressman
Continuation of the general overview of health conditions in prominent past societies from the Renaissance to the Industrial Revolution, with emphasis on topics such as the appearance of syphilis, the transmission of epidemic disease to America, decline of plague. HIST HL SC

201C. Health and Plagues: Ecology and History. (2-4) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour. Term paper (optional).
Risse
Last segment of the general overview of health conditions in prominent past societies from the nineteenth century to the present with emphasis on the effects of

industrialization on urban health, and the epidemiological transitions from acute infections to chronic degenerative diseases. HIST HL SC

204A. Historical Research I (2-4) F. Prerequisite: Consent of instructor. Seminar 2 hours. Optional term paper & reports.
Risse, Pressman
Introduction to medical historiography. Discussion of the different approaches employed in writing history: intellectual, social, history of disease, feminine perspectives, etc. HIST HLTH SCI

204B. Historical Research II. (2-4) W. Prerequisite: Consent of instructor. Seminar 2 hours. Optional term paper & reports.
Risse, Pressman
Introduction to research in medical history. Survey of bibliographical tools available to historians. Visits to archives and libraries in the Bay Area. Interviewing skils and preparatory research for oral history. HIST HLTH SCI

204C. Historical Research III (2-4) Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Optional research papers.
Risse, Pressman
Introduction to the craft of interpreting and writing medical history. Directed and assisted research and writing of historical topics. HIST HLTH SCI

206. History of Psychiatry. (2-4) F. Prerequisite: Consent of instructor. Lecture 2 hours, Seminar 1 hour
Pressman
Evolution of conceptions of madness and treatment of the mentally ill, from the Renaissance to the present. These developments are explored through a focus on cultural and social contexts. Particular attention is paid to the development of the insane asylum. HIST HLTH SCI

209. How to Be a Physician. (2-3) F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Term paper (optional).
Guttentag
Extended reading and conferences of History of Health Sciences 208. HIST HL SC

210. Topics in the History of Nursing. (2-3) Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Term paper (optional).
Flood
Selected topics in nursing history since the time of Florence Nightingale examined within the context of professional education, women's roles, and health care. HIST HL SC

211A. History of Hospitals I. (2-4) W. Prerequisite: Consent of instructor. Lecture 2 hours, seminar 1 hour
Risse, Pressman
Analysis of institutional developments from pre-Christian times, Christian hospitality and segregation schemes, to the secularization and medicalization of the hospital during the Enlightenment. HIST HLTH SCI

211B. History of Hospitals II. (2-4). Prerequisite: Consent of instructor. Lecture 2 hours, seminar 1 hour.
Pressman, Risse
Course begins with the early Industrial Revolution and ends with the modern technologically intensive institution that dominates current medicine. HIST HLTH SCI

213. Topics in American Medicine. (2-4) W. Prerequisite: Consent of instructor. Lecutre 2 hours, seminar 1 hour
Pressman, Risse
The rise of the American health care system and the broadening cultural authority of the medical expert are examined historically. Topics include sectarian medicine, nursing, the Progressive movement, intelligence testing, pharmaceuticals, and the role of government. HIST HLTH SCI

215. Clinical Medicine Since 1750. (2-4) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).
Risse
Clinical developments in Europe and America with emphasis on diagnostic and therapeutic procedures. The course examines both patients and professionals within the scientific, behavioral, and social contexts of medical practice. HIST HL SC

219. Latin America: Hist of Hlth Issues. (2-4) Sp. Prerequisite: Consent of instructor. Lecture 1 hour, seminar 1 hour. Term paper & class presentations optional for extra credit.
Risse
Examination of relationships between society, environment, and disease and their effects on pre-Columbian and colonial medical institutions in Latin America. HIST HLTH SCI

220. Selected Topics. (2-3) F, W, or Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Seminar 1 hour. Term paper (optional).
Trauner
Seminar allowing individual staff or guest lecturers to present selected topics in the history of the health sciences based on their current research and publications. HIST HL SC

250. Research. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-4 hours.
Staff
Supervised independent research, including presentations and criticism of research sources, methods, and papers. HIST HL SC

252. Women, Health, & Healing. (2-4) F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).
Staff
Historical perspectives on women's health status as patients, providers, and reformers with a focus on nineteenth- and early twentieth-century developments in the US and Great Britain. HIST HL SC

297. Special Study. (1-4) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-2 hours. Term paper/independent study (optional).
Staff
Supervised independent study intended to provide directed reading in subject matter not covered in scheduled seminar offerings. HIST HL SC

298. Thesis. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the thesis for the master's degree. HIST HL SC

299. Dissertation. (0) F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the dissertation for the Ph.D. degree. HIST HL SC

Human Development & Aging

200. Off-Campus Study. (0) F, W, Sp. Prerequisite: Approval of graduate adviser.
Staff
Full-time graduate study in the Human Development and Aging program through the intercampus exchange or consortium program. PSYCHIATRY

201A-B-C. Fundamental Theories & Methods. (1-4) F, W, Sp. Prerequisite: Consent of instructor. Seminar 4 hours.
Staff
Psychological and sociological theories and methods in the study of the human life cycle. Topics include models of development, life course, adult socialization, age stratification, intergenerational issues, cognition, historical and demographic perspectives, personality, stress, transitions, age-comparative coping, and psychopathology. PSYCHIATRY

202A-B-C. Res Meth in Adult Devel & Aging. (4) F, W, Sp. Prerequisite: Consent of instructor. Lab 6 hours.
Staff
This three-quarter course covers major methods and techniques of life course/life span research including surveys, field observations, analysis of quantitative and qualitative data, and longitudinal research. PSYCHIATRY

204. Personal Development. (2) F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
Kiefer
Representative works from behavioral science literature and world poetry and prose are brought together in the study of personality development in adult life. Compares insights from the two fields on how the developing person copes with social, historical, and psychological challenges.
PSYCHIATRY

205. Data Analysis. (3) F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.
Mullan
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. PSYCHIATRY

207. Methods of Survey Research. (3) F, W. Prerequisite: Consent of instructor. Lecture 3 hours, plus field work.
Pearlin
Course covers the major tasks of survey research. Topics such as conceptual specification, the development of indicators and measures, the construction of questionnaires, sampling, field testing, interviewing, and analysis are covered. PSYCHIATRY

214. Adv Personal Development (2-3) Sp. Prerequisite: Hum Dev 204, or consent of instructor. Seminar 2 hours, optional extra unit.
Kiefer
The prerequisite, Hum Dev 204, combines study of mainstream theories of adult personality development with literary works as case material. This course, Hum Dev 214, proceeds to the study of alternative modes from lesser-known Western and Asian traditions—C.G. Jung, William James, Hindu, Buddhist, Taoist, and Judeo-Christian spiritualist writings—and literary examples based on these. PSYCHIATRY

220. Pro-Seminar. (1) F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, given in alternate weeks.
Staff
Students, staff, or guest lecturers present selected topics, based on their current research.
PSYCHIATRY

230. Research Project Seminar. (6) F, W, Sp. Prerequisite: Graduate standing in Human Development and Aging Program, or consent of instructor. Seminar 4 hours. 6 hours additional research work.
Staff
Students are required to conduct individual research project. Seminar is organized around methodological issues including reliability, validity and development of scales and measures, and specific problems related to formulation of goals of the studies and collection and analyses of data. PSYCHIATRY

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

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

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

Human Sexuality

159. Human Sexuality. (1.5) § Sp. Lecture 1.5 hours. Offered in alternate years. Offered 1990-91.
R. Day
Social, behavioral, and clinical aspects of human sexuality are covered in a series of lectures. Lectures will present didactic material. PHARMACY

Interdepartmental Studies

100. Cell & Tissue Biology. (10) § F. Lecture 7 hours. Lab 4 hours. Conference 2 hours.
Colby, Wissig, Michaeli
Course covers the basic principles of molecular and cell biology, as well as the microscopic organization of cells, tissues, and organs with emphasis on relationships of structure and function. The histology of endocrine and reproductive systems is covered in a separate course. Intended for students in the School of Medicine and for beginning graduate students. ANATOMY & BIOCHEM

110. Core Clerkship in Surg Specialties. (1.5 per week) Su, F, W, Sp. Prerequisite: Third-year standing.
R. Boles, J. O'Donnell, J. Morris, E. Tanagho
A four-week required clerkship in the surgery specialties including Ophthalmology, Orthopaedic Surgery, Otolarytngology, and Urology. The curriculum will consist of lectures, seminars, physical diagnosis, outpatient clinical activities and, to a limited degree, procedure and surgical experience in both ambulatory and operating room areas. OTOLARYN, OPHTHALMOL, ORTHO SURG, UROLOGY

135. Reproduction Growth & Devel. (3) § F. Lecture 3 hours.
Jacobs
Course is designed to trace the biological mechanisms concerned with conception, development of the fertilized ovum through embryonic and fetal life, and postnatally to the mature individual. OB GYN R S

191. Introductory Cell Biology. (3.5) F. Lecture 6 hours, lab 4 hours, conference 1 hour: 4-week course.
D. Colby, S. Wissig
Course covers the basic principles of cell biology and introduces the histology of epithelia, nerve cells, muscles, and connective tissue. Intended for beginning graduate students. ANATOMY & BIOCHEM

192. Introductory Molecular Biology. (2.5) F. Prerequisite: Interdepartmental Studies 191. Lecture 3 hours, conference 1 hour: 7-week course.
D. Colby
Covers the basic principles of molecular biology with emphasis on their application to control of gene expression in humans. ANATOMY & BIOCHEM

193. Organ System Histology. (4) F. Prerequisite: Interdepartmental Studies 191. Lecture 3 hours, lab 4 hours, independent study 4 hours: 7-week course.
S. Wissig
Course covers the light and electron microscopic structure of organs with emphasis on the relationship of structure to organ function. The histology of endocrine and reproductive systems is presented in a separate course, Physiology 101. ANATOMY & BIOCHEM

Laboratory Medicine

140.01. Clinical Pathology. (1.5 per week) § Su, F, W, Sp. Prerequisite: One year of medical school and consent of instructor.
Gottfried
Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radioisotopes are held in the clinical laboratories at UC and SFGH. LAB MED

140.05. Clinical Pathology–VMC. (1.5 per week) § F, W, Sp. Prerequisite: Medicine 110 and consent of instructor.
M. Fisher, Sobenes
Clerkship in laboratory medicine including indications for tests, problems of collection and performance, interpretation of data to assist clinicians in rendering diagnoses and following therapy. Topics include clinical chemistry, radioisotopic pathology, hematology, immunology and serology, blood banking, microbiology, mycology, parasitology. LAB MED

140.06. Laboratory Medicine in Fresno. (1.5 per week) § Su, F, W, Sp. Prerequisite: Medicine 110.
Beland, L. Mann
Utilization of different laboratory settings, organizations, and approaches by pathologists in hospitals throughout the Fresno community. Included is coverage of traditional areas of clinical pathology in addition to such specialized areas as cytogenetics and therapeutic drug monitoring. LAB MED

140.07. Laboratory Medicine Hematology. (1.5 per week) Su, F, W, Sp. Third- or fourth-year medical students: 2-4 week course.
Engman, Corash, Roth, Levin, Gottfried
Active participation in all aspets of a UCSF hematology laboratory including coagulation cases, daily rounds of cardiovascular surgery patients, attendance at hematology conferences, and daily bone marrow signouts. One-on-one teaching of blood and marrow morphology. Experience at Moffitt/Long, VAMC, and SFGH. LAB MED

140.08. Laboratory Medicine Microbiology. (1.5 per week) Su, F, W, Sp. Third- or fourth-year medical students: 4-week course.
Hadley, Pulliam, Brooks
Course provides practical microbiology laboratory instruction correlated with clinical infectious disease rounds. The student will observe laboratory diagnosis of viral, bacterial, fungal, and parasitic infections. The goal is a better understanding of how to use the lagboratory for infectious diseases diagnosis. There are core lectures (8 hours per week), daily lab work and plate rounds, and weekly Infectious Disease rounds. The practical course may be taken at VAMC, SFGH, or UC. LAB MED

160.01. Radionuclides. (2) § Su, F, W, Sp. Prerequisite: One year of medical school. Lecture 1 hour. Clinic 4 hours.
Pollycove
Basic laboratory course in nuclear medicine. Clinical participation in the diagnosis of patients receiving radionuclides in the outpatient clinics and in the wards. LAB MED

160.02. Sexually Transmitted Diseases. (2) § W. Lecture 2 hours.
G. Brooks
Course covers biological and clinical aspects of the syndromes and agents of sexually transmitted diseases, including herpes, chlamydia, gonorrhea, syphilis, vaginitis, AIDS, and others. This is an elective course oriented toward medical students. LAB MED

160.03. Diagnostic Workup of Clinical Problems. (1) F, Sp. Prerequisite: Second-year standing. Lecture 1 hour.
Nicoll, Wall, Tierney
Students learn to make appropriate use of laboratory and radiologic testing in the evaluation of clinical problems. LAB MED

170.01. Clinical Pathology–SFGH. (2) § Su, F, W, Sp.
Gottfried
Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radioisotopes are held in the clinical laboratories at SFGH. LAB MED

452. Cytometry & Cell Analysis. (3) § W. Lecture 3 hours.
Mayall, Fulwyler
Course introduces the theory and techniques of image cytometry, flow cytometry, and flow sorting, and surveys the research and clinical applications of these powerful techniques for the analysis of individual cells. LAB MED

Medicine

110. Medicine Core Clerkship–UC-SFGH-VA-MZ-VAF-VMC. (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and 132A-B-C. Open to UCSF students only.
UC **Papadakis,** SFGH **Haber,** VA **Tierney,** MZ **Woeber,** VAF/VMC **Freeman**
Students are part of the ward team with the housestaff and faculty. Bedside instruction in history-taking, physical diagnosis, selected seminars in general medicine including the psychiatric aspects of medicine, and presentations and demonstrations of relevant cases. MEDICINE

111. Mechanisms of Disease. (1.5 per week) Sp. Prerequisite: Fourth-year standing in medical school.
Kane
An in-depth study of the mechanisms involved in serious disease processes. Emphasis on acquisition of basic science information by physicians and on the logical development of nosology and planning of intervention based on principles drawn from basic science. MEDICINE

112. Responsibilities of Med Prac. (1.5 per week) Sp. Prerequisite: Medicine 110 and Surgery 110.
Lo
Course will discuss economic forces, ethical and legal issues, social and cultural factors, and governmental policies affecting medical practice. It will define professional responsibilities in the context of these influences and the resulting forms and trends in medical practice. MEDICINE

131A-B-C. Intro to Clinical Medicine. (1-2-3) F, W, Sp. Prerequisite: First-year standing or consent of instructor. Lecture 1 hour Sp. Section work 2 hours F, W; 4 hours Sp.
M. Cooke
Interdepartmental instruction in: interviewing skills and techniques; basic physical examination and interpretation of symptoms relating to locomotor system, eye, ear, upper respiratory tract, and skin; and social responsibilities of medical practice. Lectures, clinical demonstrations, conferences, preceptorship in ambulatory care setting. MEDICINE

132A-B-C. Intro to Clinical Medicine. (8-8-3) F, W, Sp. Prerequisite: Anatomy 100, 102, and 103; Biochemistry 100A-B; Medicine 131A-B-C; Microbiology 100A and 100B (may be taken concurrently); Pathology 101, 102, and 103 (may be taken concurrently); Physiology 100 and 101; or consent of instructor. Lecture 5 hours, F, W; 1 hour Sp. Lab 2 hours F. Section work 4 hours F, Sp; 6 hours W.
M. Cooke
Continuation of interdepartmental course on pathophysiology of disease and techniques of collecting and assessing clinical data, including history-taking, examination of the patient, and use of laboratory tests. Lectures, demonstrations, bedside work, laboratories, conferences, and independent study. MEDICINE

140.01. Acting Internship–UC-VA-MZ-VAF-VMC-SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of Medicine 110.
UC **Papadakis,** VA **Tierney,** MZ **Woeber,** VAF/VMC **Freeman,** SFGH **Haber**
Students are assigned patients for study on the staff and private wards. They are supervised by attending and resident staff. They present patients on ward rounds, assist with procedures, and attend specialty conferences where their patients are discussed. MEDICINE

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and approval of third- and fourth-year coordinator.
Papadakis
Clinical clerkships in off-campus hospitals approved by the department chairperson, third- and fourth-year coordinator and the dean. MEDICINE

140.03. Adv Medicine Clerkship CRI–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 131A-B-C.
Shuman 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. MEDICINE

140.04. Infectious Diseases–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of Medicine 110 and Surgery 110.
Jensen, Tager
Clinical elective with inpatients and outpatients at VA. Students will see consults with clinical infectious disease fellow. Introduction to clinical microbiology and hospital epidemiology is included. MEDICINE

140.05. Cardiology–PMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.
Gregoratos
Students participate in various clinical cardiological activities and attend related teaching conferences and patient rounds. They are instructed in electrocardiographic interpretation and participate in daily ECG teaching sessions. MEDICINE

140.07. Oncology–SFGH. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110.
Volberding
Students will evaluate patients with malignant diseases under the supervision of oncology fellows and attending physicians. Students will see oncology patients in outpatient clinic and on the inpatient consultation service. In addition to a broad exposure to a wide range of malignant diseases, the students will be allowed to participate in the outpatient evaluation of patients with AIDS and Kaposi's sarcoma. MEDICINE

140.08. Gastroenterology–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Ockner
Students examine hospitalized and ambulatory patients, participate in their care, and present case summaries to supervising gastroenterology fellows and attending physicians. They attend all rounds and teaching conferences and may observe performance of various diagnostic and therapeutic procedures. MEDICINE

140.09. Cardiology–MZ. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 140.01 or equivalent senior ward medicine experience. Consent of instructor.
Mailhot, E. Cohen, Paley
Students work up patients, follow through diagnostic procedures, phonocardiograms, echocardiograms, stress electrocardiograms, nuclear cardiology, and angiocardiographic studies. Instruction in diagnosis of heart disease, pathophysiology of heart disease, heart sounds and therapy. Attendance at departmental conferences. Reading assigned. MEDICINE

140.10. Pulmonary Medicine–MZ. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 140.01 or equivalent senior ward medicine experience. Consent of instructor.
Addison
Consultative service including diagnostic pulmonary problems, Intensive Care Unit consultations. Fiberoptic bronchoscopy and physiologic evaluation. Students will work up patients and follow them on a daily basis, discussing all aspects of their care with pulmonary residents and attending physician. MEDICINE

140.11. Hematology/Oncology–C. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
R. Cohen
Under supervision of attending and house staff, students review pathology and relevant clinical laboratory data, interpret bone marrow slides, and work up and present patients on the wards and outpatient clinics. Participate in conferences and seminars. MEDICINE

140.12. Geriatrics–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Lonergan
Serving on the Geriatric Evaluation Unit team, students will have supervised patient contact covering biology of aging, changes in organ function and manifestation of disease in the elderly; pharmacokinetics of aged patients; psychosocial and rehabilitative aspects of care of the elderly. MEDICINE

140.13. Care of the Patient with AIDS at SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of core clinical clerkships. Fourth-year standing.
Abrams, Clement, Kaplan
Supervised by the attending physician, students will participate in the management of both inpatients and outpatients with HIV-related disease on the AIDS consult service and 1-2 days per week in the AIDS clinic. Participation in educational conferences encouraged. MEDICINE

140.14. Sexually Transmitted Diseases. (1.5 per week) Su, F, W, Sp. Prerequisite: Third-year standing. Lab 40 hours per week.
Bolan
Third- and fourth-year medical students will be trained in the diagnosis, treatment, and management of sexually transmitted diseases in the clinical setting. MEDICINE

140.16. Hematology–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.
Embury
Students work under supervision of fellows and faculty; review relevant clinical laboratory data; interpret bone marrow slides; see hematology patients in the outpatient clinic and the inpatient consultation service. Emphasis is on sickle cell disease, other hemoglobinopathies, and coagulation problems. MEDICINE

140.18. Gastroenterology–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
T. Boyer
Students share consultations with GI fellows; work up patients on wards; see patients in outpatient; attend endoscopies; attend rounds and conferences. MEDICINE

140.19. Cardiology–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Karliner
Students share consultations and on-call with cardiology fellows; work up patients on wards; interpret electrocardiograms and Holter monitor studies; attend rounds and conferences. MEDICINE

140.20. Infectious Disease–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Locksley
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. MEDICINE

140.21. Private Practice. (1.5per week) Su, F, W, Sp. Prerequisite: Medicine 110. Approval of third- and fourth-year coordinator. Student must make arrangements with private-practice physician.
Papadakis
Working experience with an internist on clinical faculty as he/she 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. MEDICINE

140.22A. Pathophysiology-Cardiovascular. (6) F. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Minimum class size 12; maximum class size 20.
Sebastian, Dohrmann
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. MEDICINE

140.22B. Pathophysiology-Hematology. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.
Sebastian, Sleisenger, 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. MEDICINE

140.22C. Pathophysiology-Renal Disease. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.
Sebastian, Ives
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. MEDICINE

140.22D. Pathophysiology-Oncology. (6) F, W, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.
Sebastian, Sleisenger, 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. MEDICINE

140.22E. Pathophysiology-Derm/Inf Disease. (6) F. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.
Sebastian, Sleisenger
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. MEDICINE

140.22F. Pathophysiology-Therapeutics. (6) W. Prerequisite: Medicine 110 or Pediatrics 110 or Surgery 110. Minimum class size 15; maximum class size 30.
Sebastian, Benowitz
Emphasis on applied pathophysiology and clinical therapeutics. Lectures and case-oriented workshops presenting the principles of therapeutics with application to specific therapy of common cardiovascular, respiratory, gastrointestinal and infectious diseases as well as diabetes. MEDICINE

140.22G. Pathophysiology-Immunology. (6) W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.
Sebastian, Sleisenger, Stobo
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. MEDICINE

140.22H. Pathophysiology-Neurology. (6) Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.
Siperstein, Sleisenger, 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. MEDICINE

140.22I. Pathophys-Endocrine Metabolism. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.
Sebastian, Strewler
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. MEDICINE

140.22J. Pathophys-Gastroenterology. (6) W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.
Sebastian, Boyer, Sleisenger
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. MEDICINE

140.22K. Pathophysiology-Pulmonary. (6) F, W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.
Sebastian, Sleisenger, Golden
Emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover back-ground material and general concepts. Students participate in discussions, workshops, and seminars, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists. MEDICINE

140.22L. Pathophysiology-Nutrition. (6) W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.
Sebastian, Sleisenger, Baron
Emphasizes biochemical and physiological concepts that determine nutritional management of problems in clinical medicine. Students attend lectures, participate in discussions and develop an independent ability to critically evaluate research literature in nutrition and apply information to management of specific clinical problems. MEDICINE

140.23. Endocrine Metabolism–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Karam
Students based at Moffitt Hospital, twelfth floor south, act as assistants to residents and to endocrine fellows for consultations as well as for hospitalized endocrine patients; attend endocrine and metabolic clinics and seminars, and teaching exercises of endocrinology and metabolism, including Medicine Grand Rounds. MEDICINE

140.24. Rheumatology & Immunology–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Sack
Familiarization with clinical manifestations, rheumatic disease therapy, immunologic disorders. Participation in in/outpatient clinics. Basic immunologic principles as related to clinically apparent immunologic dysfunction. Assignment of pertinent literature, lectures, and introduction to principles and practice of various immunologic testing. MEDICINE

140.25. Renal Disease–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
Humphreys
Students work up and follow up patients with a wide variety of renal and electrolyte disturbances, and see outpatients in a weekly Renal Clinic. Cases are discussed with attending physicians daily. Students also attend weekly Journal Club, Renal Grand Rounds, and Chief of Service Rounds. MEDICINE

140.26. Critical Care–MZ. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
Uhley, Woeber
Primary emphasis is on the management of critically ill patients in Coronary Care Unit and Intensive Care Unit. Includes teaching in the use of monitoring equipment, cardioversion, and related aspects of critical care medicine. MEDICINE

140.27. Cardiopulmonary–C. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Keroes
Students attend rounds in the Coronary Care Unit; receive instruction in cardiology, stressing electrocardiography; may work in the pulmonary function laboratory, and attend all regular teaching conferences and seminars. MEDICINE

140.28. Infectious Disease–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
J. Mills

Course includes active consultation service averaging three new consults per day. Daily patient rounds; weekly combined infectious diseases/pediatrics mini-rounds and infectious diseases intercity rounds. Two half-day infectious diseases clinics per week. Reading and library research. MEDICINE

140.29. Hematology–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Shuman
Students work up and present patients in the wards and outpatient clinics, participate in conferences and seminars, and learn the laboratory procedures applicable to their patients. MEDICINE

140.30. Endrocrine Metabolism–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
Biglieri, Schambelan
The Endocrine-Metabolic Service provides daily house staff/fellow-supervised consultations, three weekly clinics, biweekly rounds with senior staff, conferences on current research. Emphasis on clinical investigation of endocrine disorders in the General Clinical Research Center. MEDICINE

140.31. Inpatient Cardiology–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110. Fourth-year standing or consent of instructor. A four-week cardiology elective or Medicine 140.01 is recommended.
Karliner
Students work as interns in the Cardiology Service (which also includes General Internal Medicine patients) and attend all regular teaching conferences and seminars. MEDICINE

140.33. Coronary Care at Moffitt/Long. (1.5per week) Su, F, W, Sp. Prerequisite: Medicine 110, fourth-year standing or consent of instructor. A four-week cardiology elective or Medicine 140.01 is recommended.
Chatterjee
Students work as interns in the Coronary Care Unit and attend all regular teaching conferences and seminars. MEDICINE

140.34. Renal Disease–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Cogan
The student will join the renal team and participate under supervision in evaluation and treatment of patients with renal disease or disorders of fluid, acid-base, or electrolyte balance. Emphasis is placed on pathophysiology, history-taking, physical examination, and treatment. MEDICINE

140.35. Cardiology–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Cheitlin, Rapaport, N. Goldschlager, Morelli, Dohrmann, Sung
Students see patients in consultation on wards and clinics, read electrocardiograms, review cases with cardiac consultant, and attend all seminars and conferences. MEDICINE

140.36. Emergency Medicine–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
Schumaker
Students serve 40 hours per week as externs working and sharing responsibilities with residents and interns. Lectures and emergency medicine conferences are held but emphasis is on bedside instruction. MEDICINE

140.37. Emergency Medicine–H. (1.5 per week) S, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
Simon
Students serve 40 hours per week as externs working and sharing responsibilities with residents and interns. Lectures and emergency medicine conferences are held daily. Emphasis is on bedside instruction. MEDICINE

140.39. Pulmonary Disease–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Boushey
Students examine patients in Chest Clinic, on the wards and in RCU, and present them at ward rounds, pulmonary function and radiology conferences. They participate in pulmonary function testing and do assigned reading. MEDICINE

140.40. Gastroenterology–KP. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Allison, Kaufman, Udkow, Grossman
As a member of the GI Consult team, student will work-up patients, observe and participate in diagnostic and therapeutic procedures, and attend all rounds and GI diversion conferences. MEDICINE

140.41. Gastroenterology–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth-year students.
Cello
Students are responsible for evaluation and presentation of gastrointestinal patients on medical and surgical wards. Work-ups are thoroughly discussed with gastroenterology staff. Students may also observe GI techniques including sigmoidoscopy, colonoscopy, endoscopy, liver biopsy. Conferences held weekly in conjunction with Surgery, Pathology and Radiology. MEDICINE

140.42. Toxicology & Occup Med–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
C. Becker
Students evaluate patients in hospital and clinic settings, as well as consultations from SF Bay Area Poison Control Center. Students participate in patient-oriented rounds with special emphasis on toxicology, occupational medicine, drug overdose, drug abuse, and alcoholism, as well as treatment of cardiovascular and gastrointestinal diseases. MEDICINE

140.43. Rheumatology & Immunology–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Seaman

A four- to twelve-week introduction to rheumatology and immunology, offering both clinical and laboratory experience. The student will participate in inpatient and outpatient care and take part in didactic and practical aspects of the research program. MEDICINE

140.45. Endocrine Metabolism–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and consent of instructor. Enrollment limited. Priority given to UCSF students.
Siperstein, Arnaud
An introduction to the diagnosis and treatment of endocrine-metabolism diseases. Areas covered are those endocrinopathies involving the major endocrine glands, as well as diabetes mellitus and hyperlipemias. Patients will be examined and treated in both the inpatient and outpatient services. MEDICINE

140.46. Pulmonary Medicine–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year medical student in good standing.
J. Murray, Hopewell, Sheppard
Pulmonary disease, including clinical manifestations, basic pathophysiology, use and limitations of diagnostic studies and treatment. Experience will be gained by seeing patients on wards and through a series of ongoing conferences, ward rounds and review sessions under close faculty supervision. MEDICINE

140.52. Clinical Renal Elective–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Pollock
Clerkship in clinical nephrology. Lectures, rounds, conferences, renal biopsy review. Patients with acute and chronic renal disease, acute and chronic dialysis patients, patients with fluid and electrolyte problems. Renal grand rounds, journal club, nephrology research, and renal pathophysiology conferences weekly. MEDICINE

140.53. Infectious Disease–MZ. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
L. Drew, Mintz
Clinical and laboratory experience providing integrated approach to infectious diseases. Emphasis on learning techniques in diagnostic microbiology (e.g., Gram stains, bacterial and viral cultures), and correlating these findings with clinical diagnosis and patient management. Clinical and laboratory research available. MEDICINE

140.55. Advanced Medicine Clerkship–C. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth-year students.
Busch
Students, teamed with a resident, will evaluate and share in the care of 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. MEDICINE

140.56. Geriatric Medicine–MZ. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
Feigenbaum, H. Brownstein
Offers the opportunity for participation in various medically-oriented geriatric programs. Assignment to health care teams seeing patients at home, at MZ Geriatric Day Care Center, Geriatric Inpatient Assessment and Rehabilitation Unit; in-hospital consultations, and participation in multidisciplinary geriatric assessment. Supervision under MZ.faculty and fellows in geriatric medicine. MEDICINE

140.57. Cardiology–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.
Deedwania
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. MEDICINE

140.58. Pulmonary Disease–VAF. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.
P. Baylor
Students on Chest Service will have primary care responsibilities for medical inpatients under supervision of the Physician Director of the Respiratory Care Service. Instruction on topics such as the use of respirators, arterial blood gas sampling and techniques. MEDICINE

140.59. Adv Medicine Clerkship KTU–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.
Amend, Vincenti
Rotation through an active renal transplant service including clinical immunology, clinical renal pathophysiology, renal diagnosis such as X-ray, biopsy, scan. The student's experience in the care of inpatients and outpatients will encompass other internal medical problems as well. MEDICINE

140.60. Rheumatology–VMC & VMF. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.
Bertken
Experience with rheumatic diseases and chronic musculoskeletal pain including arthritides and collagen-vascular disorders as seen in clinics. Develop skills in history-taking, physical examination, selection and interpretation of diagnostic procedures, approaches to management, including drug therapy. Supervision by division chief and faculty.
MEDICINE

140.61. Advanced Medicine Clerkship–VAF. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.
R. Freeman

Assignment to team with first- and second-year resident; rounds with attending faculty four to five times weekly; attend daily noon conferences; increase skills in history-taking, physical examination, write-ups, and oral presentation. Experience in writing orders countersigned by resident. MEDICINE

140.62. Emergency Medicine–MZ. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
Savitsky
Emergency room experience providing acute care to a mixed inner city and middle class population. Students see medical emergencies, minor trauma, and acute problems in a variety of disciplines including gynecology, ophthalmology, ENT, and orthopaedics. Attendance at specialty conferences encouraged. MEDICINE

140.63. Advanced Medicine Clerkship–KP. (1.5 per week) Su, F, W, Sp.
Connolly
Fourth-year elective rotation for one month on medical wards at Kaiser Foundation Hospital in Oakland. Students will be integrated into the residency training program and will be involved in the care of hospitalized patients in an urban community prepaid health plan hospital. MEDICINE

140.64. Cardiology–UC. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110.
D. Perloff, Scheinman
Instruction in interpreting electrocardiograms as well as other diagnostic procedures used in cardiology, such as echocardiography, exercise testing, use of radioisotopes, electrophysiologic, hemodynamic, and radiologic studies. Students regularly attend cardiac and hypertension clinics, cardiology conferences and rounds. MEDICINE

140.66. Internal Medicine–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.
Larson
Students assigned to teams with first- and second-year residents, rounds with attending faculty, participation in daily conferences. Emphasis on pathophysiology of disease processes, management of acute medical problems. Refine skills in history-taking, physical examination, write-ups, presentations, techniques of diagnostic procedures. MEDICINE

140.68. Infectious Disease–VMC & VAF. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Libke
Management of common and unusual infectious diseases. May include use of anti-microbials in presence of impaired renal or hepatic function, treatment of infection in immunologically compromised host, etc. Participation in patient evaluation, treatment follow-up, ward rounds, conferences. Microbiology laboratory can be arranged. MEDICINE

140.69. Cardiology–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.
Grayson
Participation with house staff in patient care on CCU, ICU, medical wards, outpatient clinics. Introduction to invasive and non-invasive diagnostic procedures, techniques of management in care of hospitalized and ambulatory patients. Attend ECG interpretations, CCU rounds, consults, and teaching conferences. MEDICINE

140.70. Hematology, Oncology–VMC & VAF. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing and Medicine 110.
Stolberg
Students participate in the work-up of hospitalized patients and follow up progress of patients in specialty clinics seen in consultation by hematology oncology staff. Clinical experience is augmented by reading program, slide review sessions, tumor board meetings and specialty conferences. MEDICINE

140.71. Pulmonary Disease–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.
Lohne, Hirasuna
Evaluation and management of adult patients with respiratory diseases, supervised by house staff and faculty, Pulmonary Medicine section. Emphasis on physical examination of chest, interpretation of X-ray, arterial blood gases, pulmonary function studies. Gain familiarity with respirators and other aspects of respiratory care. MEDICINE

140.72. Gastroenterology–VAF. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing and Medicine 110.
Gitlin
Participation in evaluation of patients with gastrointestinal problems (gastroscopies, ERCP, colonoscopies, liver biopsies, peritoneoscopy, bowel biopsies) on wards and in outpatient clinic. Experience includes demonstration of investigation (acid perfusion and others), weekly clinical conference, liver histology, and tutorial discussion sessions.
MEDICINE

140.73. Rheumatology & Immunology–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
I. Goldstein, H. D. Perez
Students will be assigned inpatients and outpatients for work-up and management under the supervision of fellows and attending physicians. Students also will participate in clinical rounds, clinical conferences, research seminars and journal clubs. MEDICINE

140.74. Medical Consultation–SFGH. (1.5 per week) Su, F, W, Sp.
Cooke
Clerkship in Medical Consultation at SFGH. Also includes a half-day clinic in which preoperative medical evaluations are performed for patients about to undergo elective surgery. MEDICINE

140.75. Inpatient Medicine–K. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.
Fessel

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

140.77. Endocrinology/Diabetes–Fresno. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.
Shipp
Students gain extensive experience in care of patients with diabetes and other endocrine disease through active participation in special diabetes inpatient units, ward consultations, diabetes and endocrine clinics, and patient educational programs located at Valley Medical Center and in the community. MEDICINE

140.78. Critical Care Medicine–VMC. (1.5 per week) Su, F, W, Sp.
Hirasuna
Students participate in the management and evaluation of critically ill patients in the Medical Intensive Care Unit. This includes the interpretation of laboratory results, blood gases and chest X-rays and the use of mechanical ventilation and hemodynamic monitoring. Supervision is by full-time faculty with senior Medicine residents. MEDICINE

150.01. Research in Medicine. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of faculty member in charge of student's research project and approval of third- and fourth-year coordinator.
Papadakis
Students continue previously initiated research projects under the guidance of faculty members. MEDICINE

150.03. Cancer Viruses. (1.5 per week) Su, F, W, Sp. Prerequisite: Basic course in microbiology.
J. A. Levy
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 disorders in man. MEDICINE

160.03. Clinical Skills Seminar. (1) W, Sp. Prerequisite: Second-year standing or consent of instructor. Lecture 1 hour.
B. Lewis, Z. Frazier
Skills laboratory seminar designed to create a working relationship between medical and nursing students, using teaching and acquisition of clinical and communication skills as the interactive mode. Bedside skills for direct patient care will be taught and practiced. MEDICINE

160.04. Med Science & Clinical Problems. (0-1) SS1, SS2, F, W, Sp. Lecture 1 hour. Seminar 1 hour.
D. Cox
The course is designed to develop a historical perspective of what and how clinical problems can be approached in a basic medical research laboratory and to develop, by example, an analytical approach relating basic medical research to clinical medicine. MEDICINE

160.05. Clinical Occupational Medicine. (1-5) F, W, Sp.
La Dou, Garb
Clinical demonstrations and case presentations representative of occupational and environmental disease. MEDICINE

160.10. Clinical Medical Ethics. (1) F. Seminar 1 hour.
Lo
Introduction to clinical medical ethics through discussion of the medical literature. Active class participation and critical reading of articles will be required. Topics will include life-sustaining treatment, dilemmas regarding HIV infection, care of critically ill neonates, and allocation of resources. MEDICINE

160.11. Justice & Health Care Resource Allocation. (1) W. Seminar 1.5 hours.
R. Nelson
Course will examine philosophical theories of justice as they pertain to the current debate over the allocation of health care resources. The role of the physician will be examined in light of professional ethics and responsibilities. MEDICINE

170.01. AIDS–HIV: Overview & Update. (2) W. Lecture 2 hours. 1-2 hour panel discussion.
Papadakis, Bartnof
A preclinical multidisciplinary survey course in lecture format on the biomedical, clinical, and social manifestations of the pandemic caused by the human immunodeficiency virus. The course includes lectures by twenty UCSF subspecialists and two panels: SF Systems of Care and Persons with AIDS/ARC. MEDICINE

170.04. EKG Fundamentals–VA. (1) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. Lecture 1 hour.
M. Goldman
Instruction in basic electrophysiologic principles and interpretation of electrocardiograms. MEDICINE

170.05. EKG Interpretation. (1) W. Prerequisite: Medicine 131A. Lecture 1 hour.
Rapaport
Review of physical principles of electrocardiography and clinical application of electrocardiographic interpretation. MEDICINE

170.07. Non-Invasive Lab Cardiology. (1) Sp. Prerequisite: Medicine 170.05.
Rapaport
Fundamentals of non-invasive laboratory cardiologic 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. MEDICINE

170.09. Current Topics in Med Science. (2) Su, F, W, Sp. Lecture 2 hours.
Cox, Nestle
Focus on research interests of UCSF faculty. Provides broad introduction to campus research, practice in

reading and analyzing research publications. Speaker's talk includes discussion of personal background, present research, background description on research area, and discussion of future research plans. MEDICINE

170.10. Intro to Occupational Medicine. (1) W. Lecture 1 hour.
LaDou
Practice of occupational medicine as related to the prevention, recognition, and treatment of disease and injuries resulting from employment. Interaction of economic, political and social forces bearing on worker health problems. Effects of the enterprise on the community and consumer. MEDICINE

170.11. Introduction to Environmental Medicine. (1) Sp. Lecture 1 hour.
La Dou
Tutorial concerned with environmental medical problems. MEDICINE

170.12. Introduction to Geriatric Medicine. (1.5) W. Lecture 1.5 hours.
Feigenbaum
Course covers the physiology and psychology of normal aging, health care problems of the elderly, including confusional states. Techniques of rehabilitation medicine, use of medications, health care policies, multidisciplinary geriatric health care teams, and sexuality in old age are reviewed. MEDICINE

170.15. Art and Science of Health Services Research. (2) F. Prerequisite: Graduate training in applied health services research, e.g., public health, medical sociology, health economics, preventive medicine.
Luft
This course covers issues from the design and writing of grant proposals to choice of data, analytic techniques, presentation of results, publication strategies, and project management. Students should be involved in a dissertation or major project. MEDICINE

180. Industrial Toxicology. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.
Osterloh
To provide understanding of basic principles of toxicology as related to work environment and workers' health. Emphasis is on chemicals including heavy metals and pesticides, methods of surveillance, principles of acute and chronic toxicity testing. Includes lectures, student presentations, and discussion. MEDICINE

180.02. Theory of Biomedical Ethics. (1-2) § W. Prerequisite: Graduate standing and consent of instructor. Seminar 2 hours. Paper required for 2 units.
Atchley
A brief introduction to Bioethics, followed by a case-oriented approach to the understanding and use of those basic bioethical principles necessary to understand and resolve frequently encountered bioethical dilemmas in medical practice. MEDICINE

188.01. Nation's Health. (2) § F, W, or Sp. Lecture 2 hours.
P. Lee and Staff
Course will address health policy issues related to the health status of the population, the determinants of health, and health care. Jointly offered with Sociology 160 and Sociology 220. MEDICINE

188.02. Health Policy Research Seminar. (1-2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-2 hours. Seminar 1.5 hour.
P. Lee, Halfon
An introduction to the application of policy research methods to current policy issues; an interdisciplinary seminar. MEDICINE

188.03. Economics of Health. (2) § F, W, or Sp. Lecture 2 hours.
P. Lee, Luft
Basic economic concepts and tools as applied to problems in the health care system. Topics to be covered include measurement of output; demand for care, insurance, and incentives; supply of physicians' services; health sector planning; and an alternative view of the system. MEDICINE

198. Supervised Study. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor preceptor and approval of third- and fourth-year coordinator.
Papadakis
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. MEDICINE

199. Laboratory Project. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor preceptor and approval of third- and fourth-year coordinator.
Papadakis
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. MEDICINE

200. Health & Aging. (2-4) § W, Sp. Prerequisite: Graduate standing. Consent of instructor. Lecture 2-4 hours.
P. Lee, H. Lipton
Examines the health status of the aged in the U.S. in light of relevant biological, behavioral, sociocultural and environmental factors. Social, cultural and economic factors affecting the organization, financing, and delivery of health care to the aging population are examined. MEDICINE

400. Medical Staff Conferences. (2) F, W, Sp.
UC **R.K. Root,** SFGH **Rapaport,** VA **Sleisenger**
Interns and residents prepare and present case histories of patients at medical staff conferences including references to the literature, laboratory work, and special studies. Faculty members and visiting professors discuss the cases and present new developments to their respective fields. MEDICINE

401. Interdept Clinical Correlation. (4) F, W, Sp.
R. K. Root
A series of discussions is 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. MEDICINE

402. Medical Literature Seminar. (1.5) F, W, Sp.
VA **Sleisenger**
Seminars on recent literature in internal medicine, with assigned reading, required reports, and evaluation of presented material by interns, residents, and faculty. MEDICINE

403. Specialty Seminar. (2) F, W, Sp.
R. K. Root
Seminars are conducted in the fields of gastroenterology, hematology, cardiology, electrocardiology, endocrinology, chest diseases, psychosomatic medicine, arthritis and rheumatic diseases, infectious diseases, and radiology. Library research, occasional formal reports and patient presentations are required. MEDICINE

404. Specialty Seminar. (4) F, W, Sp.
SFGH **H. Williams and Staff**
Seminars are conducted in cardiology, hematology, gastroenterology, infectious diseases, metabolic diseases, and pathology, involving discussions, required reading, and reports. MEDICINE

465. Specialty Seminar. (4) F, W, Sp.
VA **Sleisenger**
Seminars are conducted in cardiology, electrocardiology, hematology, gastroenterology, radiology, fluid and electrolyte balance, endocrinology and pathology, involving discussions, required reading, and reports. Elective seminars include a chest disease conference, joint medical and surgical conference, tumor board, dermatology conference, and neuropsychiatry conference. MEDICINE

406. Research Elective. (1-10) Su, F, W, Sp.
UC **R. K. Root,** SFGH **Williams,** VA **Sleisenger**
Research programs are arranged with appropriate faculty members on an individual basis. MEDICINE

407. Clinicopathological Conference. (1) F, W, Sp.
SFGH **H.Williams,** VA **Sleisenger**
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. MEDICINE

408. EKG 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. MEDICINE

440. Postdoc Seminar in Health Economics. (4) Sp. Restricted to postdoctoral fellows in RWJ Clinical Scholars Program & NIMH-funded Clinical Sciences Research Training Program. Seminar 4 hours.
Henke
Provides survey of economic methods, models, and empirical findings related to the health care sector. Students will learn to use economic techniques to examine health care problems and policy options. MEDICINE

450. Clinical Medicine. (10) Su, F, W, Sp.
SFGH **H. Williams,** UC **R.K. Root**
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 hospitals and outpatient clinics. MEDICINE

451. Clinical Medicine–MZ. (10) Su, F, W, Sp.
Woeber
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. MEDICINE

452. Clinical Medicine. (1.5 per week) Su, F, W, Sp.
VAF **Rosenstiel**
Residents are responsible for patient care under the direction of the attending staff, including history-taking, physical examinations, laboratory tests, and consultations. The chief resident, in addition, has certain responsibilities involving the residents, and consults for all other hospital services. MEDICINE

460. Clinical Primary Care. (1.5 per week) Su, F, W, Sp.
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 as well as related clinical services such as Dermatology, Neurology. MEDICINE

461. Clinical Primary Care. (1.5 per week) Su, F, W, Sp.
Crede and Staff
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 Internship Program as well as related clinical services such as Dermatology, Neurology. MEDICINE

490. Clinical Medicine. (1.5 per week) Su, F, W, Sp.
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. MEDICINE

491. Clinical Medicine. (1.5 per week) Su, F, W, Sp.
SFGH **H. Williams**
A modified "straight" medical internship consisting of eight to nine months service in general medicine, chest, and the emergency rooms, with three to four months spent in other hospital services. MEDICINE

495. Clinical Medicine. (1.5 per week) Su, F, W, Sp.
UC **R. K. Root**
Interns are responsible for the care of patients under the direction of the attending staff, and participate in student teaching. MEDICINE

Microbiology and Immunology

100A. Medical Immunology. (2) Sp. Prerequisite: Biochemistry 100A-B. Lecture 2 hours. Equivalent to Microbiology 121 and 190A.
W. Levinson
Lectures on the fundamentals of immunology. Small group seminars on patient-related problems in this field. MICROBIOL

100B. Medical Microbiology. (6) F. Prerequisite: Biochemistry 100A-B. Lecture 4 hours. Lab 3 hours. Conference 1 hour. Equivalent to Microbiology 190B.
W. Levinson
Pathogenesis of infection by bacteria, fungi and viruses. Essentials of diagnosis, treatment, and epidemiology of diseases. Laboratory demonstrations and exercises of essential medical skills. Problem-solving exercises and small group seminars involving clinical cases. MICROBIOL

116. Microbiology and Immunology in Dentistry. (6) W. Lecture 4 hours. Lab 6 hours.
Felton, DeFranco
Comprehensive presentation of microorganisms including bacteria, fungi, viruses; fundamentals of infection and resistance, immunology, disinfection, sterilization, and antimicrobial agents. Laboratory studies and demonstrations on indigenous oral flora and applications of microbiology to dentistry. MEDICINE

120. Microbiology in Pharmacy. (5) Sp. Prerequisite: Successful completion of all first-year required coursework. Lecture 3 hours, lab 6 hours.
Lucero
Fundamentals of microbiology for pharmacy students with emphasis on mechanisms of disease production by bacteria, fungi, and viruses. Morphology, physiology, and immunology techniques used in laboratory diagnosis of selected bacterial diseases. Includes exercises in antibiotic susceptibility, disinfection, and sterility . MICROBIOL

121. Immunology. (2) Sp. Prerequisite: Biochemistry 120A-B. Required course for students in the School of Pharmacy. Lecture 2 hours.
Brodsky
Lectures on the fundamentals of immunology, drugs in hypersensitivity and immunosuppression. MICROBIOL

150.01. Microbiology Research. (1.5 per week) Su, F, W, Sp. Prerequisite: Microbiology 100A and 100B and consent of instructor.
Staff
Research in microbiology; block elective for fourth-year students. MICROBIOL

170.01. Medical Problem-Solving. (2) F, W, Sp. First-year medical students only. Conference 2 hours. Library research 2 hours.
W. Levinson
Small-group medical problem-solving conference using real clinical cases as a springboard for exploration of underlying issues in basic and clinical sciences. The emphasis is on pathophysiological reasoning, independent learning, and working in a group. Teaching is Socratic and minimally directive. MEDICINE

190A. Med Immunology-Grad Stdnts. (2) § Sp. Prerequisite: Biochemistry 100A-B. Lecture 2 hours for nine weeks. Equivalent to Microbiology 100A and 121.
W. Levinson
Lectures on the fundamentals of immunology. Small group seminars on patient-related problems in this field. MICROBIOL

190B. Graduate Medical Microbiology. (6) § F. Prerequisite: Biochemistry 100A-B. Lecture 4 hours. Lab 3 hours. Conference 1 hour.
W. Levinson
Pathogenesis of infection by bacteria, fungi, and viruses. Essentials of diagnosis, treatment, and epidemiology of diseases. Laboratory demonstrations and exercises of essential medical skills. Problem-solving exercises and small group seminars involving clinical cases. MICROBIOL

198. Supervised Study. (1-5) § Su, 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 chairperson of the department. MICROBIOL

199. Laboratory Project. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. MICROBIOL

203. Cellular Immunology. (3) F. Prerequisite: General knowledge of immunology and biochemistry. Lecture 3 hours. Offered in alternate years. Offered 1990-91.
DeFranco, J.W. Goodman
Course covers chemical and genetic basis of immunogenicity, properties of immunocompetent cells, cell interactions in the immune system, and regulatory circuits. MICROBIOL

204. Immunology of B Cells. (3) § F. Prerequisite: General knowledge of immunology. Lecture 3 hours.
G. Davis

Course will cover the molecular biology of immunoglobulins and the cellular properties of the humoral immune system. MICROBIOL

208. Molec Biology of Animal Viruses. (3) § Sp. Prerequisite: General knowledge of nucleic acid structure and chemistry and multiplication of viruses. Lecture 1.5 hours. Seminar 1.5 hours. Offered in alternate years. Offered 1990-91.
Varmus, Ganem, J.M. Bishop, Levintow
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 infection, and role of viruses in malignant transformation of cells. MICROBIOL

209. Special Topics in Immunology. (1-3) § F, W, Sp. Conference 1 hour.
J.W. Goodman and Staff
Small group tutorial in which topics and correlative reading will be selected by students for discussion with individual faculty members. MICROBIOL

210. Research Problems in Mycology. (1-5) § F. Prerequisite: Microbiology 100A, 100B and 206. Lab and conference.
Halde
Participation in research problems in a mycology laboratory. This is not a structured laboratory methods course, but rather a practical research experience involving basic research with pathogenic fungi. MICROBIOL

215. Laboratory Rotation. (2-4) § Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 6-12 hours.
Staff
Laboratory research for one quarter with a departmental faculty member to familiarize new graduate students with experimental approaches to microbiological or immunological problems of current interest. MICROBIOL

220. Selected Topics Seminar. (1) § F, W, Sp. Seminar 1 hour.
Staff
General microbiology; individual research of advanced graduate students, invited speakers and staff members. Reviews of special topics and journal articles by advanced students. MICROBIOL

221. Graduate Research Seminar. (1) § Sp. Seminar 1 hour.
N. Craig, DeFranco
Seminar series in which graduate students present their thesis research. MICROBIOL

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

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

Neurological Surgery

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

140.01. Advanced Neurosurgery Clerkship. (1.5 per week) Su, F, W, Sp.
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.
NEURO SURG

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110.
Pitts, P. Weinstein
Clinical clerkship in approved hospitals by special arrangement, and approval of the dean and chairperson of the department. NEURO SURG

150.01 Research in Neurosurgery. (1-5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor and department. Passing grade in NB Examination Part 1. 40 hours per week.
Staff
Research project under the direction of a member of the faculty. Extensive background reading will be required and discussion of important topics will be held at weekly laboratory and program project research conferences. NEURO SURG

198. Supervised Study. (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 chairperson of the department. NEURO SURG

199. Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor.
Pitts
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. NEURO SURG

400. Staff Conference. (2) Su, F, W, Sp.
C.B. Wilson
Residents, under supervision, prepare and present case histories of ward patients including laboratory work, X-ray studies, special investigation and reference to the literature. Discussion is led by the faculty with participation by visitors. NEURO SURG

402. Clinicopathological Conference. (2) Su, F, W, Sp.
R. Davis, C.B. Wilson
Residents discuss clinicopathological aspects of cases, and their correlation with the literature and special studies. Faculty and visitors discuss developments in related fields. Second-year residents organize conferences and participate in gross autopsies on patients from the Neurological Surgery Service. NEURO SURG

403. Literature Review. (1) Su, F, W, Sp.
Pitts
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. NEURO SURG

450. Clin Neurological Surgery–UC. (10) Su, F, W, Sp.
C.B. Wilson
Residents, under supervision, are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, and consultations. In addition, the senior resident has certain administrative, teaching, and clinical responsibilities. NEURO SURG

451. Clin Neurological Surgery–SFGH. (10) Su, F, W, Sp.
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 teaching and administrative responsibilities required by the attending staff. NEURO SURG

453. Clin Neurological Surgery–VA. (10) Su, F, W, Sp.
P. Weinstein
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 also present patients at conferences and attend seminars and rounds at UC. NEURO SURG

490. Clin Neurological Surg–SFGH & VA. (1.5 per week) Su, F, W, Sp.
Pitts, P. Weinstein
Interns rotate through neurological surgery wards. Under the supervision of the attending staff, they are responsible for the care of patients, including history-taking, neurologic examinations, laboratory tests, diagnostic procedures, and consultation. NEURO SURG

Neurology

Second-Year Coordinated Instruction–Medicine 132A-B-C. Lecture-demonstrations and section work devoted to the supervised examination of patients.

110. Neurology-Neurosurg Core Clkshp. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. Concurrent enrollment in Psychiatry 135.
Layzer
Students are assigned patients for study under supervision of attending and resident staffs. They attend work rounds, attending rounds, grand rounds, conferences and lecture-seminars, emphasizing diagnosis and management of common clinical problems and psychiatric aspects of neurology. NEUROLOGY

140.01A-B-C. Advanced Clinical Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110 and fourth-year standing.
R. Fishman
Students serve as acting interns on the inpatient services or on the consult service. Attendance at departmental clinical rounds, seminars, and conferences is required. NEUROLOGY

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110.
R. Fishman
Clinical clerkship in approved hospitals by special arrangement and approval of the dean and the chairperson of the department. NEUROLOGY

140.03. Outpatient Clinical Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor.
Engstrom
Students serve as clinical clerks in the outpatient clinics. Attendance at departmental clinical rounds, seminars, and conferences is required. Prior arrangements must be made. NEUROLOGY

140.04. Child Neurology. (1.5 per week) Su, F, W, Sp. Prerequisite: Pediatrics 110, Medicine 110, and Neurology 110.
Berg
Participation in child neurology 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 infants, children and adolescents. NEUROLOGY

140.05. Advanced Neurology Clerkship–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor.
R. Simon
Students serve as clinical clerks in the outpatient clinics and on the consultation service. Attendance at all departmental clinical rounds, seminars, and conferences is required. Prior arrangements must be made. NEUROLOGY

140.06. Advanced Neurology Clerkship–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor.
F. Sharp
Students serve as clinical clerks in the outpatient clinics and on the consultation service. Attendance at departmental clinical rounds, seminars, and conferences is required. Prior arrangements must be made. NEUROLOGY

140.07. Advanced Neurology Clerkship. (1.5 per week) Su, F, W, Sp.
Margolin, Felmus
Advanced students will have the opportunity to broaden and enrich their clinical neurology experi-

ence and expertise. Opportunity will be given to participate in didactic and case conference presentations. The opportunity exists for subspecialty clinical experience (e.g., behavioral neurology, neuromuscular disease). NEUROLOGY

140.08. Pain Mechanisms and Management– UC. (1.5 per week) Su, F, W. Prerequisite: Neurology 110 and consent of instructor. Enrollment limited.
Fields, Barbaro, McKay
Diagnosis, medical and surgical management of patients with chronic pain. Students will participate in conferences and rounds of the multidisciplinary pain service at UCSF's Parnassus campus. Direct patient contact will be under supervision of attending physicians (neurologists, neurosurgeons, anesthesiologists, psychiatrists). Students will learn to do sensory examinations and simple local anesthetic nerve blocks. They will learn pain management for acute post-operative patients, cancer pain, neuropathic pain, headache, low back pain. They will be expected to identify major psychological aspects of acute and chronic pain. NEUROLOGY

150.01. Neurology Research. (1.5 per week) Su, F, W, Sp. Prerequisite: Anatomy 103.
R. Fishman
Opportunities for research in one of the departmental laboratories by arrangement with the chairperson of the department. NEUROLOGY

150.02. Neuropathology. (1.5 per week) F, W, Sp. Prerequisite: Anatomy 103 and Pathology 102.
R. L.Davis, Baringer
Tissue pathology of diseases of the nervous system will be explored in greater depth in the postmortem room and by gross and microscopic techniques. NEUROLOGY

170.01. Medical Aspects of Disability. (2) F. Seminar 2 hours.
Berrol, Byl
Diagnosis, medical management, and psychosocial sequelae of the major disabling conditions including spinal cord injury, closed head injury, cerebral palsy, multiple sclerosis, chronic pain, muscular dystrophy, congenital pediatric problems. NEUROLOGY

198. Supervised Study. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.
R. Fishman and Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. NEUROLOGY

199. Laboratory Project. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.
R.Fishman and Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. NEUROLOGY

400. Neuroscience Seminar. (1.5 per week) Su, F, W, Sp.
R. Fishman, I.Diamond
Seminars covering selected subjects in the basic sciences relevant to neurology including neuroanatomy, neurochemistry, neurophysiology, and neuropathology. NEUROLOGY

401. Grand Rounds. (1) Su, F, W, Sp.
R. Fishman
Conference includes resident preparation and presentation of patient case histories including reference to the literature, laboratory work, and special studies. Faculty members and visiting professors from other universities discuss new developments in their respective fields. NEUROLOGY

402. Neurological & Neurosurgical Path. (1) Su, F, W, Sp.
R. Davis
Course involves the presentation and discussion of clinical histories and pathologic findings in selected cases of neurologic interest and histopathologic study, and discussion of surgical and postmortem specimens from neurological and neurosurgical patients. NEUROLOGY

403. Neuropathology Research. (1-10) Su, F, W, Sp. Prerequisite: Second- and third-year residents.
R. L. Davis
Course involves pathologic and clinicopathologic research into various aspects of neuropathology. Specific subjects of research are chosen in conjunction with members of he staff. NEUROLOGY

407. Neuroradiology. (1) F, W, Sp.
D. Norman
Neuroradiologic techniques and interpretations are reviewed in detail with particular emphasis on X-rays of the skull and spine, pneumoencephalography, myography and arteriography. NEUROLOGY

411. Neurology Research. (5-13) Su, F, W, Sp.
R. Fishman
Clinical and basic research in neurological disease. After consultation, assignments to one of the several departmental laboratories will be possible. NEUROLOGY

412. Neuropathology Research. (10) Su, F, W, Sp.
VA **Faden**
Specific projects in experimental pathology of the nervous system may be undertaken by direct arrangement. Techniques include neurohistology, histologic autoradiography, and electron microscopy. NEUROLOGY

450. Clinical Neurology–UC-SFGH-VA. (10) Su, F, W, Sp.
R. Fishman
Residents are responsible for the care of patients under the direction of the attending staff, and participate in student teaching. They serve on the inpatient, outpatient and consultation services. NEUROLOGY

453. Clinical Electroencephalography. (1.5 per week) Su, F, W, Sp.
Aminoff
Residents learn interpretation of electroencephalograms under the supervision of experienced electroencephalographers. They interpret electroencephalograms on patients they have seen clinically, with individual instruction available as required. Instruction is accredited by the Board of Qualification of the American Electroencephalographic Society. NEUROLOGY

454. Clinical Electromyography. (1.5 per week) Su, F, W, Sp.
Aminoff
Students learn the application of electromyography in the diagnosis of patients seen in the wards and in the outpatient clinic, with individual instruction as required. NEUROLOGY

456. Clinical Neuropathology. (1.5 per week) Su, F, W, Sp.
Malamud
Residents spend three months or more performing supervised autopsies and pathologic studies of brain, nerve and muscle. NEUROLOGY

458. Clinical Pediatric Neurology. (1.5 per week) Su, F, W, Sp.
Berg
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 schoolchild. NEUROLOGY

460. Clinical Neuro-Ophthalmology. (4.5) Su, F, W, Sp.
W. Hoyt
Residents participate in clinical evaluation of patients in preparation for rounds. Clinical teaching in neuro-ophthalmology. NEUROLOGY

Neuroscience

117. Neurobiology. (5) W. Prerequisite: First-year Dentistry standing. Lecture 4 hours. Lab 4 hours.
Sargent
Structure and function of the nervous system. The course will cover the fundamentals of neurophysiology and the organization of the nervous system. Emphasis will be placed on oral cavity. STOMATOL

156. Neurobiology. (5) W. Prerequisite: First-year Dental Hygiene standing. Lecture 4 hours. Lab 4 hours.
Sargent
Structure and function of the nervous system. The course will cover the fundamentals of neurophysiology and the organization of the nervous system. Emphasis will be placed on oral cavity. STOMATOL

201. Principles of Neuroscience. (6) § F. Lecture 4 hours. Review & discussion 3 hours.
Copenhagen, Hall, Reichardt, L. Jan, Basbaum
An interdisciplinary introduction to fundamental aspects of nervous system function. Course emphasizes the ionic basis of neuronal signaling, neurochemistry, the cell biology of the neuron, and mechanisms of neuronal integration. PHYSIOLOGY

215. Laboratory Rotation. (4) § F, W, Sp. Prerequisite: Consent of instructor. Lab 12 hours.
Reichardt
A laboratory rotation course to familiarize new departmental graduate students with various approaches to neurobiological research. PHYSIOLOGY

220. Selected Topics. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.
Z. Hall
Topic in neurobiology is selected such as development, anatomy and physiology of the visual system, biochemistry of membranes. Pertinent papers from the recent literature are read and discussed. Each student must participate regularly and present one seminar per quarter. PHYSIOLOGY

223. Developmental Neurobiology. (3) W. Prerequisite: Neuroscience 201 and consent of instructor. Lecture 3 hours.
Reichardt, Y-N Jan, L. Jan, J. LaVail
Course covers important areas of nervous system development with emphasis on molecular, genetic, and cellular approaches. Much of the course will focus on recent studies using nematodes, *Drosophila,* leeches, and zebra fish. PHYSIOLOGY

225. Neurobiology of Disease. (3) W. Prerequisite: Neuroscience 201 and consent of instructor. Seminar 3 hours.
Mobley, Fields
Seminar format with students reading and presenting papers in the current literature of neurobiological disease. Emphasis will be on the physiological and molecular bases of disease. Representative topics include neurodegenerative diseases, epilepsy, demyelinating disorders, and neuromuscular disease. PHYSIOLOGY

230. Biophysics of Membrane Excitability. (3) Sp. Prerequisite: Neuroscience 201 & consent of instructor. Seminar 3 hours.
Lansman
Course is designed to acquaint students with analytical methods used in studying excitation in nerve and muscle. Topics include: review of electrical fundamentals, LaPlace transforms, linear cable theory, thermodynamic and kinetic descriptions of electrodiffusion, voltage clamp methods, and Hodgkin-Huxley analysis of nerve excitation. PHYSIOLOGY

231. Neurotransmitter Mechanisms in the CNS. (3) Sp. Prerequisite: Neuroscience 201. Seminar 3 hours.
Nicoll, Julius, Malenka
This is primarily a reading course in which recent papers on various aspects of synaptic pharmacology and plasticity in the CNS will be discussed in depth. PHYSIOLOGY

242. The Auditory System (3) F. Lecture 3 hours.
Merzenich
Course will review in lectures, laboratory demonstrations, and in discussions the state of understanding the peripheral and central nervous system processes underlying hearing and speech perception. PHYSIOLOGY

243. Pain. (3) F. Prerequisite: Neuroscience 201 and consent of instructor.
Fields
This is predominantly a lecture and discussion format course. It will examine the neural basis of pain and its control. Correlated clinical case presentations will be included. PHYSIOLOGY

244. Motor Systems. (3) F, W, Sp. Prerequisite: Anatomy 103, Neuroscience 201. Lecture 1 hour, conference 3 hours.
Lisberger
Through readings from the literature and background lectures by the instructor, we will survey both classical and current approaches to understanding the control of motor activity in mammals. PHYSIOLOGY

250. Research. (1-8) § Su, F, W, Sp. Prerequisite: Consent of instructor. Laboratory.
Staff
PHYSIOLOGY

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

Nursing

103. Introduction to Nursing. (7) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 15 hours.
C. West
Introduction to nursing and nursing process: fundamental nursing, terminology, facts, trends, and their application in nursing practice. PHYSIOL NURS

104. Nursing of Adults. (9) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 21 hours.
C. West
Application of the nursing process to the physiological, psychological, and sociological aspects of regulating response mechanisms to stress. PHYSIOL NURS

105. Maternal-Child Nursing. (9) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 21 hours.
M. Savedra
Application of principles and theories to nursing care given during the life processes of reproduction, nurturance and development, and alterations due to stressors during pregnancy and child development from birth to adolescence. FAM HLTH

106. Psychiatric Ment Hlth Nursing. (9) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 21 hours.
J. Lipson
Principles and dynamics of personality and family development. Application of the nursing process with clients who have coping problems resulting from stressors in selected developmental or situational crises. MENT HLTH COM ADM

122. Physiol Processes–The Life Span (4) § F. Lecture 4 hours.
M. Muwaswes
Examines content in regulation, sensation, protection, and motion as they relate to adaptive mechanisms in man at the cellular level. PHYSIOL NURS

124. Professional Nursing Practice. (1) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 1 hour.
J. Lipson
Course provides an introduction to the basis for professional practice and problems related to role change and resocialization in academia. Emphasis will be on use of theoretical approaches as the basis for providing nursing care. MENT HLTH COM ADM

127. Adaptation in Acute Illness. (5) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Nursing 129 or concurrent enrollment. Lecture 2 hours. Lab 3 hours. Seminar 2 hours.
C. West
Course describes and explores concepts related to the nursing care of the acutely ill patient. Description of behaviors, measurements, and nursing actions appropriate to the concepts will be compared and contrasted across a variety of acute illnesses. PHYSIOL NURS

128. Intro to Research & Theory. (3) W. Lecture 2 hours. Seminar 1 hour.
H. Wilson
Introduces basic research concepts, language, process, logic, and methods for various types of research as well as the meaning and use of nursing theory. Engages students in skills of intellectual craftsmanship including effective reading, thinking, and writing to improve research consumership. MENT HLTH COM ADM

129. Health Assessment. (3) F. Lecture 2 hours. Lab 3 hours.
L. Lommel
Course presents a basis for health assessment of clients within an adaptation-developmental model of nursing. Emphasizes data collection through history, physical examination, clinical studies, and identification of stressors altering health status. Laboratory for integration of theory and skill mastery. FAM HLTH

131. Psychosocial Adaptation. (4) W. Lecture 2 hours. Lab 4 hours. Conference 2 hours.
P. Underwood
Course presents a knowledge base for understanding assessment of intervention with persons demonstrating psychosocial responses to actual or potential health problems. Interviewing and communication techniques are presented as an integral part of both assessment and intervention. MENT HLTH COM ADM

132. Care of Aged & Chronically Ill. (3) § W. Lecture 3 hours.
G. Dowling
Nurse's role in health promotion and meeting special needs of the elderly and chronically ill. Demographic issues, functional assessment, alternatives for providing long-term care, and case management in acute, long-term, and community care settings will be covered. FAM HLTH

133. Family Health Care. (3) W. Prerequisite: N129. Lecture 2 hours. Lab 1 hour. Conference 2 hours.
S. Rankin
Course deals with the healthy family as the primary unit of health care management. Nursing process applied to promoting family health is emphasized, utilizing the adaptational-developmental framework. Community involvement with a family is an integral part of the course. FAM HLTH

135. Leadership in Nurs-Client Sys. (3) § Sp. Lecture 2 hours. Seminar 1 hour.
Staff
Course provides opportunity to develop a professional nursing role in a health care system appropriate to the student's area of interest. Knowledge and skill basic to the professional nursing leadership role are the foci of the course. MENT HLTH COM ADM

137. Community Health Nursing. (8) Sp. Prerequisite: N124. Lecture 3 hours. Lab 15 hours.
C. Kelly
Application of nursing, family, and community health theory to community health settings, focusing on assessing, planning, implementing, and evaluating nursing care with families, groups, and the community. Health planning and public policy will be examined. MENT HLTH COM ADM

140. Integrated Science. (3) Su. Lecture 3 hours.
M. Dodd
Course introduces basic cell structure and function. Chemical, physical, and biochemical principles of cellular structure and function are presented. Principles of microbiology are explored as a special case of cellular function. PHYSIOL NURS

141A. Anatomy and Physiology. (3) Su. Lecture 3 hours.
M. Dodd
Course introduces anatomy and physiology needed to understand adaptation in health and illness. The focus is on understanding normal homeostatic mechanisms and their interactions in health. The integrative organ functions of the cardiac, pulmonary, and renal systems are presented. PHYSIOL NURS

141B. Anatomy and Physiology. (3) F. Prerequisite: N140, N141A, N142, N143. Lecture 3 hours.
M. Dodd
Anatomy and physiology needed to understand adaptation in health and illness. The focus is on understanding normal homeostatic mechanisms and their interactions in health. The integrative functions of the nervous, endocrine, musculoskeletal, and gastrointestinal systems are presented. PHYSIOL NURS

142. Professional Nursing I. (8) Su. Lecture 2 hours. Patient contact 18 hours.
M. Dodd
Course explores the concepts of health and illness and role of the professional nurse. Focuses on using the nursing process in care of persons across the adaptation and developmental continua. Concurrent laboratory designed to develop skills and knowledge common to the nursing care of adults. PHYSIOL NURS

143. Effective Communication. (3) Su. Lecture 3 hours.
H. Wilson, B. Furuta
Course reviews selected theories of human interaction and presents principles and techniques of effective communication as they relate to establishing and maintaining a helping relationship. Students use laboratory experience to develop skills in communication and interaction. MENT HLTH COM ADM

144. Nursing Care of Med-Surg Patients. (13) F. Prerequisite: N140, N141A, N142, N143. Lecture 5 hours. Patient contact 24 hours.
M. Dodd
Course focuses on nursing assessment, diagnosis and care of adults with common medical-surgical conditions including problems common to the elderly. Clinical experiences are provided to allow (for development of pertinent knowledge and skills) application of content with clients. PHYSIOL NURS

145. Pathophysiology. (2) F. Prerequisite: N140, N141A, N142, N143. Lecture 2 hours.
M. Dodd
Course provides understanding of disease and its treatment as the basis for nursing assessment and intervention. Major disease entities will be explored, utilizing a conceptual organization of the content. PHYSIOL NURS

146. Parent-Child Nursing. (7.5). W. Prerequisite: N140, N141A, N141B, N142, N143, N144, N145. Lecture 4 hours. Patient contact 10.5 hours.
M. Tesler
This clinical course in the nursing care of children and families integrates theoretical concepts related to the management of pediatric patients in acute and ambulatory settings. Application of concepts of growth and development of the child and family is included. FAM HLTH

147. Childbearing Families. (7.5) W. Prerequisite: N140, N141A, N141B, N142, N143, N144, N145. Lecture 4 hours. Patient contact 10.5 hours.
K. Lee
Course focuses on biopsychological concepts forming the basis for normal childbearing events and application to clinical situations. Emphasis is on nursing assessment and management of the woman and fetus

during antepartum and intrapartum periods, and new mother and infant during the first postpartum month. FAM HLTH

148. Socio-Cultural Issues in Hlth, Illness. (2) W. Prerequisite: N140, N141A, N141B, N142, N143, N144, N145. Lecture 2 hours.
V. Olesen
Course focuses on significant socio-cultural variations in health and illness, prevention and care that make particular impacts on nursing practice in a variety of settings. Attention will be given to cultural diversity associated with ethnicity and social class. SOC BEH SC

149. Psych/Mental Health Nursing. (4.5) Sp. Prerequisite: N140, N141A, N141B, N142, N143, N144, N145, N146, N147, N148. Lecture 2 hours. Patient contact 7.5 hours.
L. Chafetz, P. Underwood
Course presents theories of human behavior as they relate to function, alteration, and/or disruption of mental processes; reviews current knowledge related to nursing care, psychiatric treatment, and psychosocial rehabilitation of the identified mentally ill individual and his/her family. MENT HLTH COM ADM

150.Community Health Nursing. (9.5) Sp. Prerequisite N140, N141A, N141B, N142, N143, N144, N145, N146, N147, N148. Lecture 4 hours. Patient contact 16.5 hours.
D. Oda
Course explores application of nursing, family, and community health theory in community health settings, focusing on assessing, diagnosing, planning, implementing, and evaluating community health nursing care with families, groups, and communities. General principles will be applied to specific vulnerable populations. MENT HLTH COM ADM

151. Issues in Nursing. (3) Sp. Prerequisite: N140, N141A, N141B, N142, N143, N144, N145, N146, N147, N148. Lecture 3 hours.
M. Styles
Course explores major issues and trends in contemporary nursing and health care delivery as they relate to nursing practice, education, and research. MENT HLTH COM ADM

181. Law and the Practice of Nursing. (2) § Sp. Lecture 2 hours.
D. Tennenhouse
Course surveys fundamental and critical current issues in law with respect to the theory and practice of nursing. Emphasis is on legal contingencies encountered in the everyday practice of nursing in both hospital and community settings. PHYSIOL NURS

187. Scientific Writing. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Enrollment limited.
J. Grout
Course reviews bibliographic search methodology, the style of scientific writing, American Psychological Association (APA) editorial format, and composition of the introductory paragraph. PHYSIOL NURS

189. Survey of Human Sexuality. (3) § Sp. Lecture 3 hours.
T. Ayres
Theories and concepts of femininity, masculinity, and sexuality throughout the life cycle. Exploration of the wide range of human sexual behavior. Content includes sexual response, common sexual dysfunction and therapy, masturbation, homosexuality, and sexuality in some health conditions. FAM HLTH

197. Group Independent Study. (1-5) SS1, SS2, F, W, Sp. Lab 3-15 hours.
Staff
Students collaborate in clinical investigation and study special problems related to nursing and health sciences under the direction of faculty. Students may select topics for study related to their area of interest.

198. Supervised Study in Nursing. (1-5) § SS1, SS2, F, W, Sp. Prerequisite: Consent of instructor. Lab 3-15 hours.
Staff
Student conducts library research and does directed reading under supervision of a faculty member with approval of the chairperson of the department.

199. Laboratory Project in Nursing. (1-5) § SS1, SS2, F, W, Sp. Prerequisite: Consent of instructor. Lab 3-15 hours.
Staff
Student conducts a laboratory research project under direction of a faculty member with the approval of the chairperson of the department.

201. Curriculum & Program Development. (3) § F, Sp. Prerequisite: M.S. standing or consent of instructor. Lecture 1 hour. Seminar 2 hours.
N. Okamoto
Course reviews educational principles, nursing models, and conceptual framework for curriculum and program development to enable students to analyze, critique, and develop curricula and programs for schools of nursing and health delivery systems. PHYSIOL NURS

202A. Theory Development in Nursing. (3-4) § F. Prerequisite: Doctoral standing. Lecture 3 hours.
A. Meleis
Examines philosophically and analytically the nature of theory and relationship between philosophy, theory, and science. Provides knowledge and experience in all stages of theory development, exploration and critique of epistemological and historical ideas in nursing; scholarly exchange toward independent discovery. MENT HLTH COM ADM

202B. Prototype Theories in Nursing. (3-4) § W. Lecture 3 hours.
S. Laffrey
Comparative study and critical analysis of major prototype theories from which conceptions of nursing are derived. Emphasis is placed on systems, symbolic interaction, developmental exchange, and adaptation level theories. MENT HLTH COM ADM

202C. Theories & Conceptual Frameworks. (3-4) § Sp. Prerequisite: Doctoral standing. Lecture 3 hours.
A. Meleis
Comparative study and critical analysis of major conceptual models and theories in nursing. Considers relationship congruency of models to prototype theories; system, interaction, developmental, adaptation level theories. Examines the implication of nursing theories and models for practice and research. MENT HLTH COM ADM

203. Consultation Theory & Process. (2-3) § W, Sp. Lecture 2 hours. Lab 0-3 hours.
D. Oda
Course provides a study of theories and concepts of consultation as a facilitating process relevant to nurses working in primary, secondary, and tertiary prevention services. Emphasis will be on consultation strategies. Optional laboratory for theory testing. MENT HLTH COM ADM

204. Issues in Hospice Care. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours.
I. Martinson
Course explores history, function, and models of hospice care. Supportive physical/psychosocial nursing interventions to promote symptom control and family coping during end-stage of life are covered with special emphasis on AIDS. Research, legal, ethical issues, and nursing implications are discussed. FAM HLTH

205.01. Clinical Knowledge Development. (4) § F. Prerequisite: N202A. Lab 6 hours. Seminar 2 hours.
P. Larson
Course defines the nature of advanced clinical practice relevant to the area of focus in the doctoral program. Problems common to selected patients are explored. Phenomena are analyzed to develop knowledge for advanced nursing in clinical and administrative settings. PHYSIOL NURS

205.02. Clinical Knowledge Development. (4) § F. Prerequisite: N202A. Lab 6 hours. Seminar 2 hours.
I. Martinson
Course defines the nature of advanced clinical practice relevant to the area of focus in the doctoral program. Problems common to selected patients are explored. Phenomena are analyzed to develop knowledge for advanced nursing in clinical and administrative settings. FAM HLTH

205.03. Clinical Knowledge Development. (4) § F. Prerequisite: N202A. Lab 6 hours. Seminar 2 hours.
P. Underwood
Course defines the nature of advanced clinical practice relevant to the area of focus in the doctoral program. Problems common to selected patients are explored. Phenomena are analyzed to develop knowledge for advanced nursing in clinical and administrative settings. MENT HLTH COM ADM

206. Nursing Management of Adult Psych Cond. (3) § F. Prerequisite: N227 and N219 or equivalent, and consent of instructor. Lab 3 hours. Seminar 2 hours.
P. Underwood
Seminar is designed for graduate psychiatric nursing students to examine and discuss various theories and practice approaches to the nursing management of psychiatric conditions in adults. MENT HLTH COM ADM

207. Clin Nsg: Physio. (3-5) § SS1, SS2, Su, F, W, Sp. Prerequisite: Doctoral standing. Lab 3-9 hours. Seminar 2 hours.
Staff
Course is an advanced study of the theory and research in the care of patients with physiological disruption and/or illness. In-depth examination of patient problems, assessment and management in the student's selected specialty area. Seminar with clinical laboratory. PHYSIOL NURS

208.01A. Concept Delineation in Physiological Nursing. (3) § W. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.
V. Carrieri-Kohlman
Seminar describes and analyzes phenomena relevant to nursing from theoretical, clinical, and empirical perspectives. Related concepts of interest to nursing are selected from observations in clinical settings and delineated in relation to the selected phenomena. PHYSIOL NURS

208.02A. Concept Delineation in Family Health Care Nursing. (3) § W. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.
Staff
Seminar describes and analyzes phenomena relevant to nursing from theoretical, clinical, and empirical perspectives. Related concepts of interest to nursing are selected from observations in clinical settings and delineated in relation to the selected phenomena. FAM HLTH

208.03A. Concept Delineation in Mental Health, Community, and Administrative Nursing. (3) § W. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.
Staff
Seminar describes and analyzes phenomena relevant to nursing from theoretical, clinical, and empirical perspectives. Related concepts of interest to nursing are selected from observations in clinical settings and delineated in relation to the selected phenomena. MENT HLTH COM ADM

208.01B. Concept Measurement in Physiological Nursing. (3) § Sp. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.
P. Larson, R. Sisson
Seminar focuses on measurement of selected concepts and their clinical manifestations. Existing measures are examined from theoretical, clinical, and empirical perspectives when the need for new measures is identified. PHYSIOL NURS

208.02B. Concept Measurement in Family Health Care Nursing. (3) § Sp. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.
Staff
Seminar focuses on measurement of selected concepts and their clinical manifestations. Existing measures are examined from theoretical, clinical, and empirical perspectives when the need for new measures is identified. FAM HLTH

208.03B. Concept Measurement in Mental Health, Community, and Administrative Nursing. (3) § Sp. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.
Staff
Seminar focuses on measurement of selected concepts and their clinical manifestations. Existing measures are examined from theoretical, clinical, and empirical perspectives when the need for new measures is identified. MENT HLTH COM ADM

208.03C. Social Support: Theory, Res & Meth. (2-4) § W, Sp. Prerequisite: Doctoral standing. Seminar 2 hours. Independent study optional 3 or 6 hours for 3 or 4 units.
J. Norbeck
Analysis of the literature relating social support to various health and adjustment outcomes with emphasis on conceptual and methodological issues. Students will develop a focused review of the social support literature relevant to their research and/or clinical interests. MENT HLTH COM ADM

209. Proseminar in Quality Assurance. (1) § F, W, Sp. Seminar 1 hour.
W. Holzemer
Professional development seminar provides a forum for all students in the QA specialty to discuss current topics and issues. Faculty, students, and guest speakers will alternate as seminar leaders and presenters. PHYSIOL NURS

210. Information Technology and Nursing Care. (3) § Sp. Lecture 3 hours. Lab hours vary.
W. Holzemer, S. Henry, Z. Mirsky
Course applies research from information technology and selected aspects of nursing care (diagnoses, nursing minimum data set, decision-making) in order to capture patient outcomes for program planning activities. PHYSIOL NURS

211A. Introduction to Research. (3) § F. Prerequisite: Elementary statistics or equivalent. Lecture 3 hours.
H. Wilson
Lectures and computer-assisted instructional materials present an overview of the research process, including sections on developing research questions, experimental design, instruments, sampling, and data analysis. Differing views of science will be explored. Course is designed as a competency-based instructional program. PHYSIOL NURS

211.01B. Patient-Family Teaching Critique. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
J. Hallburg
Course critiques studies in patient-family teaching 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. FAM HLTH

211.03B. Survey of Health Status Research. (2-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Enrollment limited. Preference given to community health nursing specialist students.
S. Laffrey
Students will critically examine research on health status at the individual, group and societal levels. Emphasis is on the concept of health status, measurement methods, and implications of research approaches and findings for nursing practice. MENT HLTH COM ADM

211.04B. Death in Childhood Res Critique. (3) § W. Prerequisite: Nursing 211A and consent of instructor. Seminar 3 hours.
I. Martinson
Critique of studies related to the professional management of death, childhood development of the concept of death, children's response to death in the family, death anxiety in fatally ill children, and impact of death of a child on the family. FAM HLTH

211.05B. Critique: Studies in Family Health. (3) § W. Prerequisite: N211A or equivalent or consent of instructor. Seminar 3 hours.
C. Gilliss
Course is a critique of research addressing the family and its relationship to the health and illness of family members. Research considered classic in the field will be reviewed, as will contemporary research. FAM HLTH

211.06B. Neuroscience Research Critique. (3) § W. Seminar 3 hours.
R. Sisson
This course presents the scholarly process of critiquing research in neuroscience nursing. The foci are: evaluation of the research process, assimilation of the scientific basis for this specialty, and examination of implications of empirical findings for neuroscience nursing. PHYSIOL NURS

211.07B. Crit of Onc Nursing Studies. (3) § W. Prerequisite: Consent of instructor. Seminar 3 hours.
M. Dodd, P. Halliburton
Course presents the scholarly process of critiquing published research in oncology nursing. Emphasis will be on evaluation of the research processes utilized by investigators, and the implications of empirical findings for oncology nursing practice. PHYSIOL NURS

211.08B. Critique of Management Research. (3) § W, Sp. Prerequisite: N211A or consent of instructor. Lecture 3 hours.
J. Ezrati
The course provides a critical analysis of studies which examine organizational behavior and administrative practice. The emphasis is on attitudes, insights, and abilities crucial to appreciation, appraisal, and utilization of research in management. MENT HLTH COM ADM

211.09B. Research Critique: Critical Care. (3) § W. Prerequisite: N211A. Seminar 3 hours.
V. Carrieri-Kohlman
Course critiques research studies related to the nursing assessment, its plan, and therapy of acutely ill patients with multi-system failure. Students will learn to appreciate, evaluate, and integrate research findings into their clinical practice. PHYSIOL NURS

211.10B. Critique: Studies in Child Health. (3) § W. Prerequisite: N211A or equivalent or consent of instructor. Seminar 3 hours.
D. Weekes
Course is a critique of research addressing the health pediatric client and those experiencing chronic illness. Research considered classic in the field will be reviewed, as will contemporary research. FAM HLTH

211.12B. Occup Hlth Res-Critical Review. (3) § W, Sp. Prerequisite: N211A or consent of instructor. Lecture 1 hour. Seminar 2 hours.
J. Lipscomb
Course is a critical analysis of studies exploring the relationship of the workplace to health of the worker. Emphasis is on appraisal of relevant scientific literature, identification of research methods, and development of research proposals in occupational health nursing. MENT HLTH COM ADM

211.14B. Critique: Ment Hlth Outcome Studies. (3) § Sp. Prerequisite: N211A or consent of instructor. Lab 3 hours. Seminar 2 hours.
L. Chafetz
Course will criticize outcome studies in psychosocial care of the chronically or severely mentally ill. The intent is to develop research consumerism, through promotion of attitudes, insights, and abilities necessary for critical evaluation and utilization of health-related research. MENT HLTH COM ADM

211.20B. Critique–Perinatal & Pediatric. (3) § W. Prerequisite: N211A or equivalent or consent of instructor. Seminar 3 hours.
D. Affonso, M. Lynch
Course critiques studies reflecting physiological or situational stressors in the high-risk perinatal and pediatric patient. Course will facilitate the appreciation, appraisal, and integration of research findings into clinical practice. FAM HLTH

211.21B. Cardiopulmonary Res Critique. (3) § W, Sp. Prerequisite: N211A or consent of instructor. Lecture 2 hours. Lab 3 hours.
K. Miller
Critique of cardiopulmonary research with the intent to develop research consumerism, with emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. PHYSIOL NURS

211.22B. Qlty Patient Care Res Eval. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
V. Carrieri-Kohlman
Course critiques research studies in quality of patient care, emphasizing the utilization of a systematic critique process, methodologies employed in evaluation programs, and identification of major problems in patient care evaluation research. PHYSIOL NURS

211.23B. International/Cross-Cultural Nursing Research. (3) § W, Sp. Prerequisite: N211A or doctoral admission. Seminar 2 hours. Conference 1 hour.
J. Lipson
Seminar focuses on critical analysis of studies in selected areas of international cross-cultural health and nursing. Emphasis is on high risk groups and situational stressors. MENT HLTH COM ADM

211.24B. Institutional Care of the Aged. (3) § W. Prerequisite: N211A. Seminar 2 hours. Field work 3 hours.
J. Kayser-Jones
Seminar focuses on critiquing research studies in the institutional care of the elderly using a theoretical, historical, and cross-cultural approach. PHYSIOL NURS

211.25B. Research Critique: Trauma/ Emergency. (3) § W. Prerequisite: N211A. Seminar 3 hours.
S. Janson-Bjerklie
Course is a critical analysis of studies that explore assessment and management variables in emergency and trauma nursing. Emphasis is on the critique process related to studies for applicability to clinical practice. PHYSIOL NURS

211.26B. Critique of QA/Staff Dev Res. (3) § Sp. Prerequisite: N211A. Lecture 3 hours.
W. Holzemer
Course examines strategies for the critique of research and applies to quality assurance and staff development research studies. PHYSIOL NURS

211.51C. Clinical Research Methodologies. (3) § Sp. Prerequisite: N211A. Lecture 2 hours. Lab 3 hours.
N. Stotts
Course provides the opportunity for students to apply research methods in the development of a research proposal. Students will address research of problems significant to their patient population. PHYSIOL NURS

211.52C. Visual Data Study of Human Behav. (3) § Sp. Prerequisite: One course in research methods. Graduate standing and consent of instructor. Lab 3 hours. Seminar 2 hours.
B. Highley

The use of still photography in the study of human behavior as it relates to health care. Includes the history of photography's impact on social and health policy, and explores issues related to design, sampling, and content analysis. FAM HLTH

211.53C. Illness Management Research. (3) § F, W, Sp. Prerequisite: N211A, or graduate course on research methods in social science, or consent of instructor. Lecture 2 hours. Lab 3 hours. Course may be repeated for credit.
L. Reif
Methods for conducting exploratory studies on social-psychological and organizational factors which affect the management of illness and delivery of health services. Problem identification, collection and analysis of data, and presentation of findings and policy implications of research are included. PHYSIOL NURS

211.54C. Data-Gathering Methods. (3) § W, Sp. Prerequisite: One course in research design. Seminar 3 hours.
W. Holzemer
Course will focus on selection and construction of data-gathering tools in nursing research. Validity, reliability and utility are discussed. Computer coding and conducting a pilot study are included. PHYSIOL NURS & FAM HLTH

212A. Evol of Psychoanalytic Theory. (2) § F, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
P. Underwood
This advanced seminar, open to graduate students, focuses on theory as an approach to understanding human behavior rather than as an approach to treatment. Emphasis is on evolution of theory and use of psychoanalytic concepts in nursing research. MENT HLTH COM ADM

212B. Social Issues in Psych Nursing. (2) § W, Sp. Prerequisite: M.S. students may take this course if they have completed N227. Lecture 2 hours.
L. Chafetz
This course will examine historical and current literature, focusing on social factors and mental illness related to the severely ill in urban environments and public psychiatric treatment settings. The emphasis is on implications for nursing research and practice. MENT HLTH COM ADM

213. Advanced Nursing Practice Roles. (2) § W. Restriction: Course is for second-year M.S. students. Consent of instructor is required for other students. Lecture 2 hours.
M. Muwaswes
Course focuses on analysis of the content, scope, and issues of advanced nursing practice roles, using the context of role and organizational theory. PHYSIOL NURS

214. Community-Based Long-Term Care. (3) § W, Sp. Prerequisite: Graduate status or permission of instructor. Lecture 2 hours. Lab 3 hours.
L. Reif
Course analyzes empirical research and theory dealing with noninstitutional approaches to long-term care. Examination of patient characteristics and needs, models of service delivery, factors affecting service utilization, and nurses' roles in provision and management of community-based long-term care. PHYSIOL NURS

215A. Health in the Community. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.
C. Kelly
Course provides exploration of theories, concepts, and principles pertaining to the practice of community health nursing with focus on positive health factors and interaction within families, groups, and communities. MENT HLTH COM ADM

215B. Community Health Planning. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
C. Kelly
Exploration of analytic planning models applicable to community health services. Utilization of the community as a basis for planning and delivery of health care. Emphasis is on the role of the community nurse in health planning. MENT HLTH COM ADM

216. Interventions–Nurs Work Stress. (2) § F. Prerequisite: Graduate standing. Seminar 2 hours.
A. Baldwin
Course will help to enable students to evaluate the recent research and current models of nursing work stress. From this base, students will critically select strategies for assisting and intervening in nursing stress situations. PHYSIOL NURS

217. Psychosocial Care of Children. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
M. Tesler
Course explores theory related to the psychosocial experiences of illness and hospitalization for the child and his family. Focus is directed to minimizing trauma and promoting growth. Concurrent practicum recommended. FAM HLTH

218A. Phenomena Common to the Nursing Care of Ill or Injured. (3-4) § F. Prerequisite: N276. Prior or concurrent enrollment in physiology or consent of instructor. Lecture 1 hour. Seminar 2 hours. Lab optional 3 hours for 4 units.
N. Stotts
Knowledge is organized around phenomena common to ill or injured individuals across the life span. Concepts such as stress, healing, clotting, infection, consciousness, pain and coping will be examined from a theoretical and clinical perspective. PHYSIOL NURS

218C. Current Therapeutics. (1-5) § F. Prerequisite: Physiology, N218A and N218B. Seminar 1-5 hours.
N. Stotts, C. West
Course investigates the theoretical basis of selected therapies commonly used with the ill or injured.

Therapeutic aspects of interventions as well as side effects will be explored. Recent research will be used as the basis for discussion. PHYSIOL NURS

218D. Illness or Injury Rehabilitation. (2-3) § W. Prerequisite: Graduate standing. N218A and N218B. Seminar 2 hours. Lab optional 3 hours.
C. West
Course examines the theoretical basis for rehabilitation of patients following physical illness or injury. Nursing therapies which promote optimal adaptation and development are evaluated utilizing relevant research as a base. Clinical laboratory optional. PHYSIOL NURS

218E. Trauma and Emergency Therapeutics. (3) § F. Prerequisite: N221.03 and N275AB. Seminar 3 hours.
C. May
Course focuses on scientific basis of selected therapeutic interventions used in the care of trauma and emergency patients. Nursing interventions related to therapies will be evaluated and/or proposed.PHYSIOL NURS

218.01B. Concepts in Cardiovascular Nsg. (3) § W. Prerequisite: Consent of instructor. Cardiac physiology and pathophysiology. Seminar 3 hours.
P. Skov
Course analyzes the needs of cardiovascular surgical patients. Physiologic and pathophysiologic mechanisms and surgical interventions are explored. Issues in clinical management are discussed from the theoretical perspective, and compared and contrasted with clinical practice. PHYSIOL NURS

218.02B. Concepts in Neuroscience Nursing. (3) § W. Prerequisite: N218A. Lecture 3 hours.
R. Sisson
Course explores phenomena which are commonly experienced by patients with a neurological diagnosis from a theoretical, scientific, and clinical practice perspective. Emphasis is on nursing interventions. PHYSIOL NURS

218.04B. Concepts in Adult Medical Nursing. (3) § W. Prerequisite: N218A. Seminar 3 hours.
Staff
Course analyzes the needs of the medical patient. Physiologic and pathophysiologic mechanisms and appropriate treatments are explored. Issues in clinical management are discussed from the theoretical perspective, and compared and contrasted with clinical practice. PHYSIOL NURS

218.05B. Concepts in Oncology Nursing. (2) § W. Prerequisite: N218A. Lab 2 hours, Seminar 1 hour.
Staff
Course analyzes the needs of the cancer patient. Physiologic and pathophysiologic mechanisms are explored from the theoretical perspective and compared and contrasted with clinical nursing practice. PHYSIOL NURS

218.06B. Concepts in Critical Care Nursing. (3) § W. Prerequisite: N218A. Seminar 3 hours.
Staff
Course analyzes the needs of the critically ill patient. Physiologic and pathophysiologic mechanisms and appropriate treatments are explored. Issues in clinical management are discussed from the theoretical perspective, and compared and contrasted with clinical practice. PHYSIOL NURS

218.07B. Concepts in Trauma & Emergency Nursing. (3) § W. Prerequisite: N218A and N221.03. Seminar 3 hours.
B. Bires
Course examines human responses commonly experienced by trauma and emergency patients from a theoretical and clinical practice perspective. Emphasis is on scientific basis of nursing knowledge as the foundation for practice. PHYSIOL NURS

218.08B. Concepts in QA Nursing. (3) § W. Prerequisite: N218A and consent of instructor. Seminar 3 hours.
W. Holzemer, S. Henry, Z. Mirsky
Course examines human responses commonly experienced by hospitalized patients from a quality assurance and patient outcome perspective. Issues in the understanding of relationships between clinical phenomena and quality assurance measures will be explored. PHYSIOL NURS

219. Psychosocial Assessment. (3) § W. Lecture 2 hours. Conference 1 hour.
H. Wilson
This course critically examines diagnosis of the psychosocial human responses and standard psychiatric disorders. Emphasis is on the use of assessment tools (i.e., Mental Status Examination, Psychiatric History, DSM-IIIR, and PND-I) across diverse clinical areas and with clients throughout the life span. MENT HLTH COM ADM

220.01. Adv Sem in Nursing Research. (3) § F, W, Sp. Prerequisite: Successful completion of the qualifying examination and/or consent of instructor. Seminar 3 hours.
H. Wilson
This seminar guides doctoral students in the design and conduct of research in specialty areas in cross-cultural and international nursing and mental health and community nursing. MENT HLTH COM ADM

220.02. Adv Sem in Nursing Research. (3) § F, W, Sp. Prerequisite: Successful completion of the qualifying examination. Seminar 3 hours.
I. Martinson
A seminar which guides students in the design and conduct of research in specialty areas in family health care nursing. FAM HLTH

220.03. Adv Sem in Nursing Research. (3) § Sp. Prerequisite: Successful completion of the qualifying examination. Restriction: Doctoral-level course. Seminar 3 hours.
V. Carrieri-Kohlman

Seminar guides students in design and conduct of research in specialty areas in physiological nursing. PHYSIOL NURS

221.01. Pathophysiology of Cancer. (3) § Sp. Prerequisite: Admission to graduate program and graduate-level physiology of the cell. Audits by permission only. Lecture 2 hours. Seminar 1 hour.
P. Larson
Theories of carcinogenesis, the natural history of representative cancers and the mechanisms of action of certain therapeutic agents will be discussed. The clinical relevance for nursing of the associated pathophysiologic changes will be emphasized. PHYSIOL NURS

221.02. Cardiovascular Pathophysiology. (3) § W. Lecture 3 hours.
P. Skov
Course is a study of pathophysiology, diagnosis, and treatment of major cardiovascular disorders that provide the basis for the nursing management of this population. Emphasis is on the acute phase of illness. PHYSIOL NURS

221.03. Trauma and Emergency Pathophysiology. (4) § Sp. Prerequisite: N275AB (Physiological Basis of Nursing). Lecture 4 hours.
B. Bires
Course focuses on pathophysiology of injury and emergent medical conditions. Exemplars of clinical states commonly seen in trauma and emergency care will be analyzed.PHYSIOL NURS

221.04. Critical Care Pathophysiology. (4) § Sp. Lecture 4 hours.
R. Sisson
Course offers study of the multi-system effects of frequently occurring pathologic states in the critically ill. Emphasis is on major mechanisms and consequences of the disorders which provide the basis for nursing assessment. PHYSIOL NURS

222A. Principles of Nurse Midwifery. (4) § F, W. Prerequisite: Enrollment in Nurse-Midwifery specialty. Lecture 3 hours. Lab 3 hours.
M. Barger, D. Anderson
Course critically analyzes scientific principles underlying selected obstetric and gynecologic diagnostic and therapeutic procedures in the management of health care of women throughout the childbearing cycle. FAM HLTH—UCSD

222B. Nurse Midwifery Management. (4) § W, Sp. Prerequisite: Enrollment in Nurse-Midwifery specialty. Lecture 4 hours.
V. Lops, S. Weiner
Course expands the theoretical knowledge base of the normal physiology of pregnancy. Emphasis is placed on the intrapartal period with facilitation of normal processes and patient teaching. FAM HLTH—UCSD

222C. Complex Probs in Nurse Midwifery. (4) § Sp. Prerequisite: Enrollment in Nurse-Midwifery specialty. Lecture 4 hours.
V. Lops, L. Ennis
Course explores the theoretical concepts and principles applied to the management of pathophysiological and psychosocial issues complicating the birthing process. Issues of professional practice, adjustment to primary care role, and medical collaboration and consultation are considered. FAM HLTH—UCSD

223. Mental Health and Aging. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.
C. Deitrich
Course focuses on assessment and management of common mental health problems of the older adult. Factors contributing to mental health or illness, adaptive behaviors, specific psychopathologies, and the similarity of presenting features of physical and mental illness are explored. PHYSIOL NURS

224. Pediatric Clinical Therapeutics. (4) § F. Prerequisite: Course given in conjunction with N245 (Pediatric Critical Care Assessment). Lecture 4 hours.
M. Lynch
Course provides a conceptual approach to examine pathophysiological phenomena identified in the pediatric critical care population. The interrelationships of human responses, symptoms, processes, stressors, and interventions will be discussed specific to alleviating the phenomena identified in this population. FAM HLTH

226A. Chronic Illness & Nursing. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
J. Hallburg
Course offers a study of problems related to long-term illness. Explores the interrelationship of various cultural, psychosocial, and pathophysiological factors involved in chronic illness. Field experience included. FAM HLTH

226B. Chronic Illness & Nursing. (3) § W. Prerequisite: N226A or consent of instructor. Lecture 2 hours. Lab 3 hours.
J. Hallburg
Course further explores the complexities involved in the illness careers of patients with chronic illness and their families, including the implications for nursing. Course analyzes the interrelationship of various cultural, psychosocial, and pathophysiological factors involved in long-term illness. Field experience included. FAM HLTH

227. Theories of Psych Conditions. (4) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 3 hours.
L. Chafetz
Course is an overview of socio-cultural, psychological, and biological theories of major mental illness. Seminars emphasizing historical development of these theoretical perspectives and the ways in which they currently contribute to the biopsychosocial models of disorder and to nursing practice. MENT HLTH COM ADM

228. Statistical Analysis Critique. (3) § F. Prerequisite: Basic statistics course. Open to doctoral

students only, others by permission of instructor. Lecture 3 hours.
Staff
The course emphasizes the critique of the statistical analysis of nursing research. Statistical tests are evaluated by using the criteria of logical consistency between research question, design, statistical method, and conclusions; power of the test; and underlying mathematical assumptions. FAM HLTH

229. Comparative Research Methods. (2) § W. Prerequisite: Admission to the doctoral program or consent of instructor. One quarter of theory (N 202 or 290) and research (N 278) desirable. One quarter of theory, N202A, 202B, 202C or 290.01, 290.02, 290.03 and research. N278 recommended. Seminar 2 hours.
S. Gortner
Underlying assumptions as well as design, measurement, and analytic issues pertinent to nursing research will be compared for various research methods. The advantages and disadvantages of approaches such as historical, descriptive, correlational, epidemiological, experimental, and action research will be examined. FAM HLTH

230A. QA Needs Assessment, Planning, and Evaluation. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours.
W. Holzemer, S. Henry, Z. Mirsky Course examines strategies to design, monitor, and evaluate Quality Assurance programs. Current criteria and standards for practice are critically reviewed. Theoretical relationships among QA, staff development, and evaluation research are presented. PHYSIOL NURS

230B. Selected Topics in QA. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.
W. Holzemer, S. Henry, Z. Mirsky Course provides an in-depth exploration of selected topics related to QA, including prospective payment, diagnostic related groups, utilization review, case management, and consumerism. PHYSIOL NURS

232. Clinical Pharmacology in Primary Care. (3) § F, W, Sp. Prerequisite: Consent of instructor. Limited to nurse practitioner students. Lecture 3 hours.
S. Echaves, L. Ennis
Course introduces the clinical application of pharmacology and therapeutics to the medical management of patients. Focus is on common medications used in primary care. Emphasis is placed on integration of drug therapy as one component of therapeutic management. MENT HLTH COM ADM

233. AIDS: Primary Prevention. (3) § Sp. Lecture 3 hours.
J. Faucett
Course focuses on the epidemiology and primary prevention of AIDS. Ethical and legal issues, access to care, and mental health issues are discussed. Emphasis is on teaching strategies for prevention with high-risk populations and those practicing high-risk behaviors. MEN HLTH COM ADM

234.01. Specialty Research Seminar. (3) § Sp. Prerequisite: Doctoral standing or consent of instructor. Seminar 3 hours.
N. Stotts
Course evaluates research in the student's area of specialization. Emphasis is on critique of the design, methodology, and findings. Synthesis of the evaluation of studies results in the identification of major research questions in the field of study. PHYSIOL NURS

234.02. Specialty Research Seminar. (3) § Sp. Prerequisite: Doctoral standing or consent of instructor. Seminar 3 hours.
J. Hallburg
Course evaluates research in the student's area of specialization. Emphasis is on critique of the design, methodology, and findings. Synthesis of the evaluation of studies results in the identification of major research questions in the field of study. FAM HLTH

234.03. Specialty Research Seminar. (3) § Sp. Prerequisite: Doctoral standing or consent of instructor. Seminar 3 hours.
A. Davis
Course evaluates research in the student's area of specialization. Emphasis is on critique of the design, methodology, and findings. Synthesis of the evaluation of studies results in the identification of major research questions in the field of study. MENT HLTH COM ADM

235A. Child Mental Health Counseling I. (2) § F. Seminar 2 hours.
S. Weiss
Course addresses client-centered and psychodynamic theories underlying individual counseling with children. Emphasis will be on therapeutic play and on counseling as a prevention strategy involving collateral work with the child's psychosocial environment. MENT HLTH COM ADM

235B. Child Mental Health Counseling II. (2) § W. Prerequisite: N235A. Seminar 2 hours.
S. Weiss
Course covers cognitive, behavioral, and gestalt theories of child mental health counseling. Theories of group counseling will also be examined, including methods based on play, activity, and interview. MENT HLTH COM ADM

235C. Child Mental Health Counseling III. (2) § Sp. Prerequisite: N235A-B. Seminar 2 hours.
S. Weiss
Course focuses on mental health counseling of children in situational crises. Particular emphasis is placed upon crises associated with loss, divorce, and physical illness. Termination of the counseling relationship is also addressed. MENT HLTH COM ADM

236. Expectant Parent Group Education. (2-3) § Sp. Prerequisite: Consent of instructor. Lab 3 hours. Seminar 2 hours.
D. Affonso
Theoretical sessions are related to methodology and techniques of conducting expectant parent education

groups. Exploration of content relevant to concerns of expectant parents encompassing childbearing and early child rearing experiences. Concurrent practicum recommended, but not required. FAM HLTH

237. Health Assessment through Life. (3-4) § F, Sp. Prerequisite: Department of Family Health Care Nursing students. Approval by F.O.R. Concurrent practicum required. Lecture 2-3 hours. Lab 3 hours.
L. Ennis
Course presents theoretical principles of health assessment throughout the life cycle. Areas to be covered include methodologies of data gathering and data analysis essential to comprehensive health assessment of all groups. Laboratory experience provides application and integration of theory. FAM HLTH

238A. Infant & Child Development. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.
B. Holaday
Course covers major theories and research findings dealing with the physical, intellectual, and emotional development of the child from birth through school age. FAM HLTH

238B. Adolescent Development. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours.
M. Savedra
Course explores relevant theory, literature, and research findings dealing with normal development during the adolescent period. FAM HLTH

239. Environ Issues in Psych Rehab. (3) § F. Lecture 2 hours. Lab 3 hours.
L. Chafetz
Course provides an overview of rehabilitative, residential, and interpersonal environments for the chronically or severely mentally ill. It considers properties of mental health programs, housing, and personal networks which appear to promote rehabilitation goals and overall quality of life. MENT HLTH COM ADM

240A. Family Primary Care I. (5) § Sp. Prerequisite: Enrollment in Family Nurse Practitioner Program and N237. Lecture 5 hours.
B. McLain, S. Carroll
Theories, concepts and knowledge for comprehensive assessment and management of common health and illness conditions throughout the life cycle will be presented. Emphasis will be on primary care of the family unit. FAM HLTH

240B. Family Primary Care II. (4-5) § F. Prerequisite: N240A. Lecture 4-5 hours.
S. Carroll
Course presents theories, concepts, and knowledge for comprehensive assessment and management of selected episodic, stable chronic illness, and related health conditions throughout the life cycle. Emphasis will be on primary care of the family unit. FAM HLTH

240C. Family Primary Care III. (4-5) § W. Prerequisite: N240A-B. Lecture 4-5 hours.
B. McLain
Course presents theories, concepts, and knowledge for comprehensive assessment and management of special problems in family primary care. Emphasis will be on care of the family unit. FAM HLTH

241A. Collaborative Role Development. (1) § Sp. Prerequisite: Consent of instructor and concurrent enrollment in primary care clinical residency. Seminar 1 hour.
B. McLain
Seminar deals with critical analysis of issues and research related to collaboration in primary care. Emphasis is on history and philosophy of primary care, role change, and models of collaborative practice. FAM HLTH

241B. Role Development in Primary Care. (2) § F. Prerequisite: Consent of instructor and concurrent enrollment in primary care clinical residency. Lecture 2 hours
J. Saxe
Course offers the student nurse practitioner the opportunity to discover strategies for promoting role development and advancing the nursing profession in the primary health care arena. INTERDEPARTMENTAL

241C. Collaborative Role Development. (1) § W. Prerequisite: Successful completion of N241B (Role Development in Primary Care) and concurrent primary care clinical residency (N404.01, N405, or N406). Lecture 2 hours every other week.
J. Saxe, S. Carroll
Bi-weekly seminars deal with critical analyses of issues and research related to collaboration in primary care. Emphasis is on joint practice frameworks and practice management, marketing the nurse practitioner role, and legal/professional issues. MENT HLTH COM ADM

242A. Long-term Care of Older Adults. (3) § Sp. Prerequisite: N257 (Biology of Aging) or consent of instructor. Seminar 3 hours.
G. Dowling
Course focuses on nursing management strategies geared toward maximizing function and minimizing risk factors in older adults. Emphasis is on the scientific basis for advanced nursing practice with this population including the role of the interdisciplinary team. PHYSIOL NURS

242B. Care of Acutely Ill Older Adults. (3) § F. Prerequisite: N257 (Biology of Aging). Seminar 3 hours.
M. Wallhagen
Course addresses major phenomena common in the acutely ill older adult and focuses on the scientific basis for nursing management, the role of the multidisciplinary team in case management, and ethical issues that influence decision-making.
PHYSIOL NURS

243.01. Family Therapies (3) § W. Lecture 3 hours.
S. Weiss

Course offers a critical examination of theories guiding therapeutic work to enhance family mental health. Diverse theoretical perspectives for assessment and intervention with troubled families will be analyzed, including structural, strategic, and communication frameworks as well as psychoeducation. MENT HLTH COM ADM

243.02. Trends in Group Psychother Modalities. (2) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours.
B. Furuta
Seminar is designed for graduate students of psychiatric nursing to examine and discuss theories and practice of various group modalities in current use.
MENT HLTH COM ADM

244A. Res Sem: Indiv, Fam, or Comm. (2-4) § F. Prerequisite: Completion of first-year requirements for the Ph.D. program in nursing or consent of instructor. Lecture 2 hours, Independent study 0-6 hours.
S. Laffrey
Nursing 244A-B-C prepares students for original research through consideration of content methods and issues in an area of specialization. Nursing 244A focuses on evaluation of a content area and generation of research questions within it. MENT HLTH COM ADM

244B. Res Sem: Indiv, Fam, or Comm. (2-4) § W. Prerequisite: N244A or consent of instructor. Lecture 2 hours, Independent study 0-6 hours.
C. Gilliss, M. Duffy
Nursing 244ABC builds upon prior research content to prepare students to develop and defend a plan for original research. Nursing 244B focuses on identification of research questions and criticism of design/methods in the students' areas of interest. FAM HLTH

245. Pediatric Critical Care Assessment. (2) § F. Prerequisite: Course given in conjunction with N224 (Pediatric Clinical Therapeutics). Lecture 2 hours.
M. Lynch
Course focuses on the assessment of manifestations of pathophysiological phenomena in the pediatric critical care population. This assessment provides baseline data for management decisions and nursing care interventions. FAM HLTH

246. Contemporary Parenting. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lab 3 hours. Seminar 2 hours.
M. Tesler
Course explores the evolving parent-child relationship. Focus is on adaptive tasks to manage environmental and interpersonal variables influencing the development of the parenting role. Nursing functions that support role acquisition and mastery are discussed. FAM HLTH

247A. Pediatric Family Study. (1) § W. Prerequisite: N246, N279A, and enrollment in Pediatric Primary Care Program. Lab 2-3 home visits per quarter. Seminar 2 hours.
M. Zweiback
Seminar focuses on family development in the first year of life with emphasis on parental concerns, childrearing practices, growth and development, nutritional issues and family responses to pediatric primary care experience. Examines nurse's role in provision of primary care. FAM HLTH

247B. Pediatric Family Study. (1) § Sp. Prerequisite: N246, N247A, and N279A. Lab 2-3 home visits per quarter. Seminar 2 hours.
M. Zweiback
Seminar focuses on family development in the first year of life with emphasis on parental concerns, childrearing practices, growth and development, nutritional issues, and family responses to pediatric primary care experience. Examines nurse's role in provision of primary care. FAM HLTH

248. Group Independent Study. (1-6) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-6 hours.
Staff
Students collaborate in clinical investigations and other studies of special problems in nursing and health sciences under the direction of faculty. Students may select areas related to their long-term interests and future research or clinical program. INTERDEPARTMENTAL

249. Independent Study. (1-5) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-5 hours.
Staff
Student undertakes an individual study with emphasis on special problems in nursing. Students may select an area of study which is related to his/her area of interest or future goals. INTERDEPARTMENTAL

250. Research. (1-8) § F, W, Sp. Prerequisite: Admission to doctoral study and consent of instructor.
Staff
Course offers students an opportunity to engage in research with selected faculty. INTERDEPARTMENTAL

250.01. Research Rotation. (1-6) § Su, F, W, Sp. Prerequisite: Completion of first year of doctoral study and consent of adviser. Lab 3-18 hours.
Staff
The student will participate in ongoing faculty research. This experience will contribute to the student's methodological or substantive expertise.
INTERDEPARTMENTAL

250.02 Clinical Research Rotation. (1-6) § Su, F, W, Sp. Prerequisite: Completion of first year of doctoral study and consent of adviser. Lab 3-18 hours.
Staff
The student will participate in ongoing faculty clinical research. This experience will contribute to the student's methodological or substantive expertise.
INTERDEPARTMENTAL

251. Advances in Vascular Nursing. (3) § SS1, SS2, Su, F, W, Sp. Prerequisite: Consent of instructor. Learning modules 10 hours.
C. West, C. Hubner
Course examines the theoretical basis of prevention, intervention, adaptation, and rehabilitation in peripheral vascular insufficiency utilizing relevant research. Computer simulations facilitate synthesis and application of content. PHYSIOL NURS

252. Issues in Scientific Inquiry. (2-4) § F. Prerequisite: Consent of instructor. Restriction: Doctoral-level students who have completed the preliminary exam. Seminar 2-4 hours.
M. Cowan
Course provides a forum for discussion of issues in the conduct of scientific investigations emphasizing those situations and problems associated with the content areas specific to the students' own interests. PHYSIOL NURS

253. Innovative Subsystems of Nursing Care. (3) § W. Restriction: Doctoral level—suggested D.N.S. Seminar 3 hours.
I. Martinson
Course provides instruction in the development of a nurse-directed subsystem of care, including the capability to develop a feasible, functioning system to plan design for collection and analysis of data needed for evaluation. FAM HLTH

254. Fetal-Newborn Development. (2) § Sp. Lecture 2 hours.
C. Liljeblad
Course is a study of body system development during embryonic, fetal, and postnatal growth. Emphasis is on normal anatomical and physiologic development, critical periods of developmental alterations, and transitions for extra-uterine adaptation. Implications for nursing practice are explored. FAM HLTH

255.01. Pediatric Health Assessment. (2-3) § Sp. Prerequisite: Consent of instructor. Restriction: For students enrolled for 2U, evidence must be provided of a concurrent supervised physical assessment experience. Lecture 2 hours. Lab 3 hours.
D. Goldman, M. Truskier
Course presents theoretical principles and assessment techniques for determining health status of children, including health history and physical examination. Focus is on collection and interpretation of clinical data. Laboratory or concurrent practicum required. FAM HLTH

255.02. Child Health Maintenance. (2-3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-3 hours.
P. Jackson, S. Clark
Course provides exploration of theories, concepts, and knowledge for comprehensive child health maintenance, encompassing prevention and promotion. Emphasis is on parents as participants in assessment, decision-making, and management of common health problems and normal developmental stresses in infancy and childhood. FAM HLTH

255.03A. Common Pediatric Illness Management. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.
P. Jackson
Course presents theories, concepts, and knowledge for comprehensive assessment and management of common pediatric illnesses. Emphasizes the most common acute conditions managed by a PNP in collaboration with pediatrician. Integrates history taking, physical findings, diagnosis, and management. FAM HLTH

255.03B. Common Pediatric Illness Management. (4) § W. Prerequisite: Consent of instructor. Lecture 4 hours.
S. Clark
Course presents theories, research, and knowledge for comprehensive assessment and management of common acute and chronic pediatric illnesses. Emphasizes integration of content within clinical settings and collaborating care between nurse, family, and physician. FAM HLTH

256. Transitions & Health. (3) § W, Sp. Lecture 3 hours. Course may be repeated for credit.
A. Meleis
Critical and analytical review of theories and research that links health of the individual and families to relocations and transitions. Focuses on responses and coping with situational, developmental, health-illness, and sociocultural transitions. Nursing therapeutic theories will also be explored. MENT HLTH COM ADM

257. Biology of Aging. (3) § W. Seminar 3 hours.
M. Wallhagen
Course focuses on the biology, pathophysiology, and current theories of human aging. Clinical application of theory for nursing practice is provided. PHYSIOL NURS

258A. Family/Childbearing Theory. (3) § F. Lab 3 hours. Seminar 2 hours.
J. DeJoseph
Course is an introduction to the theoretical foundation of knowledge about the childbearing family. A selection of nursing theories is used to assist the student to analyze the psychosocial and physiological factors impacting the family during the childbearing cycle. FAM HLTH

258B. Family/Childbearing Phenomena. (3) § W. Seminar 2 hours. Project 3 hours.
D. Affonso
Course studies perinatal phenomena identified in national reports for their theoretical, practice, and research implications. Phenomena include prevention of low birthweight infants, contemporary stressors for childbearing families, cognitive model to assess cultural diversity in perinatal health care, and related legislation. FAM HLTH

258C. Family/Childbearing Theory. (3) § Sp. Prerequisite: N 258A and N258B. Seminar 3 hours.
M. Gershwin

Clinical seminar addresses psychosocial and pathophysiologic issues of pregnancy, childbirth, parenting, and family/marital relationships during childbearing; focus on self-care practices for family; emphasis on midwife as facilitator of adaptation. FAM HLTH

259.01. Women's Reproductive Health. (1-5) § F. Lecture 1-5 hours.
D. Taylor, L. Lommel
Course provides exploration of theories, concepts, and knowledge necessary to maintain and promote women's health. Emphasis is on application of current research: decision-making and management of pregnancy, the interconceptional period, and the climacteric, including collaboration with health team members. FAM HLTH

259.02. Special Problems in Women's Health. (1-4) § W. Prerequisite: Consent of instructor. Lecture 1-4 hours. Seminar optional 1 hour.
W. Star, J. Neeson
Emphasis is on theory and management of bio-psychosocial deviations from normal in women before and during pregnancy, interconceptional period, and climacteric. Emphasis placed on critical analysis of research in metabolic, infectious, and functional disorders including collaborative management of women manifesting these disorders. FAM HLTH

259.03. Advanced Women's Health Seminar. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
W. Star, D. Taylor
Course explores theoretical and management aspects of selected phenomena in women's health applicable to the nurse practitioner role. FAM HLTH

260A. Cultural Concepts in Hlth Care. (3) § F, W, Sp. Seminar 3 hours.
J. Lipson
Course introduces basic concepts and issues in medical anthropology and transcultural nursing. Provides opportunity to critically review research literature and discuss implications for nurses and other health care professionals. MENT HLTH COM ADM

260B. Intl & Cross-Cultural Theories. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
A. Meleis
Course explores theoretical and conceptual aspects of international and cross-cultural nursing. Topic areas covered include culture and ethnicity; social policy and international development; health planning; ethics; and cross-cultural communication. MENT HLTH COM ADM

260C. Int/Cross-Cultural Nsg Issues. (3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.
A. Davis
Seminar examines selected international nursing issues including primary care, nursing education and nursing service, women's roles, and patients' rights. MENT HLTH COM ADM

261. Mental Health Nursing and the Law. (2) § W, Sp. Prerequisite: Enrollment in M.S. program in Psychiatric Nursing or consent of instructor. Lecture 2 hours.
G. Gresham
Course reviews history and development of mental health legislation and decisional law in the U.S. and California. Explores current mental health laws as they relate to and influence the practice of psychiatric nursing in the public and private sectors. MENT HLTH COM ADM

262A. Women's Health Roles/Issues I. (1) § F, W. Prerequisite: Enrollment in Women's Health Nurse Practitioner Program or consent of instructor. Seminar 2 hours (every other week).
J. DeJoseph
Seminar focuses on critical analysis of issues influencing role transition, role enactment, scope and control of practice, and professional growth of the women's health care provider. FAM HLTH

262B. Women's Health Roles/Issues II. (1) § W, Sp. Prerequisite: N262A. Seminar 1 hour.
L. Sammons, J. DeJoseph, J. Flanagan
Seminar focuses on critical analysis of issues influencing restraints and enhancements of contemporary practice for women's health care providers. Impact of current legal, legislative, technological, and health care delivery trends are examined. FAM HLTH

263B. Restorative Care: Geron/LTC. (3) § Sp. Prerequisite: N263A. Consent of instructor. Lecture 2 hours. Seminar 1 hour.
Staff
Examines restorative nursing care, including supporting principles, concepts, and theories. Explores prescribed nursing care, outcomes, and evaluations for various institutional and community settings. Emphasis is on goal achievement and independence of each individual. Concurrent practicum is required. PHYSIOL NURS

264A. Model Specification. (2-3) § F. Prerequisite: Enrollment in doctoral program and graduate level statistics course. Lab 0-3 hours. Seminar 2 hours.
Staff
Course reviews and analyzes the theoretic and mathematical bases of specifying and testing causal/predictive models in nursing. Analysis of the model includes assessment of mathematic and causal model assumptions and remedial steps to correct for distributional and/or specification violations. FAM HLTH

264B. Model Testing and Respecification. (3) § W. Prerequisite: N264A. Seminar 3 hours.
Staff
Advanced methods in exploratory analysis of data sets and respecification of models in nursing. Students test their own model using their own or a faculty-provided data base. Course emphasis is on using quantitative analysis for theory building. FAM HLTH

265. Management of Clinical Occupational Health Problems. (3) § F, W, Sp. Prerequisite:

Consent of instructor. Lecture 1 hour. Seminar 2 hours.
J. Cone
Course explores clinical management of occupational medical problems. Case-oriented discussion of problems in occupational health, using medical, nursing, industrial hygiene, and epidemiological principles. Emphasis is on clinical diagnostic strategies and epidemiologic methods used in evaluation of occupational health problems. MENT HLTH COM ADM

266. Applied Pathophysiology of AIDS. (2) § F. Prerequisite: Undergraduate biology or consent of instructor. Lecture 2 hours.
A. Lewis, T. Moran, G. Gee
Course describes theories of the natural history of AIDS and AIDS-related diseases. Symptomatology, diagnostic tools, treatments, and investigational protocols will also be reviewed. Clinical cases and nursing management using secondary prevention techniques will be emphasized. PHYSIOL NURS

267. Ethical Dilemmas & Nursing Prac. (3) § F, W. Lecture 2 hours.
Library research 3 hours.
A. Davis
Course explores selected ethical theories, 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. MENT HLTH COM ADM

268. Psychiatric Liaison Nursing. (2) § F, W, Sp. Prerequisite: N211A and enrollment in the child or adult psychiatric nursing specialty tracks, Department of Mental Health, Community, and Administrative Nursing, or consent of instructor. Lecture 2 hours.
L. Chafetz
Course reviews the emerging literature on psychiatric liaison nursing. Reports on roles of psychiatric nurses in medical settings will be critically analyzed, as well as clinical studies from the area of general hospital psychiatry. Comparative models of practice are discussed. MENT HLTH COM ADM

269. Historical & Contemporary Issues. (2-3) § F, W, Sp. Lecture 2 hours. Seminar optional 1 hour.
M. Styles
This course is designed to explore major issues and trends in contemporary nursing and health care delivery as they relate to nursing practice, education, and research. MENT HLTH COM ADM

270. Health Assessment of the Adult. (3) § Sp. Lecture 3 hours.
C. Deitrich
Course presents assessment techniques to determine adults' health status. Focuses on collection and interpretation of clinical data derived from history and physical examination. Course emphasis on identification of normal and abnormal physical findings, actual and potential stressors, and adequate responses. MENT HLTH COM ADM

271A. Clinical Management in Adult Primary Care. (1-4) § F. Prerequisite: N270 or consent of instructor. Lecture 1-4 hours.
T. Mendelson
Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of the nursing process into clinical decision-making. MENT HLTH COM ADM

271B. Clinical Management in Adult Primary Care. (1-4) § W. Prerequisite: Consent of instructor. Lecture 1-4 hours.
E. Hughes
Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of the nursing process into clinical decision-making. MENT HLTH COM ADM

271C. Clinical Management in Adult Primary Care. (2-4) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Independent projects optional for 3-4 units.
T. Mendelson
Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of nursing process into clinical decision-making. MENT HLTH COM ADM

272. Chronic Illness: Child & Family. (3) § Sp. Prerequisite: N238A, Anthropology 235, Psychology 205, or consent of instructor. Lecture 3 hours.
B. Holaday
Course offers study of chronic illness in childhood and its effects upon the individual and his/her family. The presentation of content is based upon developmental and interactional models. Clinical content considers systematic assessment and intervention. FAM HLTH

273A. Current Concepts in Occupational Health. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour.
J. Lipscomb
Course analyzes structure and organization of the occupational health system, regulatory control mechanisms for worker protection, and labor's role in health and safety. Major issues and trends in occupational health are explored. MENT HLTH COM ADM

273B. Current Concepts in Occupational Health Nursing. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.
B. Burgel
Course analyzes the role of the OHN in managing an occupational health service. Emphasis is on planning,

development, and evaluation of occupational health programs. MENT HLTH COM ADM

274. Health and Safety Hazards/Workplace. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
J. Lipscomb, P. Quinlan
Course introduces principles of industrial hygiene and safety for identification of chemical, biologic, physical, ergonomic, and safety hazards of work. Student will identify environmental monitoring methods, select health surveillance and safety measures, and discuss methods to control exposures and injuries. MENT HLTH COM ADM

275A. Physiological Basis for Nursing. (1-3) § F. Lecture 1-3 hours.
M. Engler
Course studies physiological theories applicable to nursing. Focus is on normal cell functions and nervous and endocrine systems functions which serve as a basis for nursing practice. PHYSIOL NURS

275B. Physiological Basis for Nursing. (1-3) § W. Lecture 1-3 hours.
M. Engler
Course studies physiological theories applicable to nursing. Focus is on normal function of gastrointestinal, cardiovascular, renal and pulmonary systems which serve as a basis for nursing practice. PHYSIOL NURS

275C. Neonatal Pathophysiology. (2) § Sp. Lecture 2 hours.
C. Liljeblad
Course is a study of the major disease processes encountered in the neonate and their relevance to nursing practice. The course will address etiology, manifestations and treatment during the acute phase of illness. FAM HLTH

276. Theoretical Perspectives for Nsg Practice. (3) § F. Lecture 3 hours.
K. Miller
Comparative study of selected nursing conceptions and theories and their implications for nursing practice, curriculum development, and research. Critique of theories will address key questions relevant to nursing goals, intervention focus and outcomes, recipient of nursing, and social significance. PHYSIOL NURS

278. Nursing Science History & Philos. (4) § F. Prerequisite: Doctoral-level standing or consent of instructor. Lecture 2 hours. Seminar 2 hours.
S. Gortner
Course is an analysis of history and philosophy of nursing science in the United States and abroad, addressing origins of scientific questions and activity, contemporary philosophic viewpoints, and debates currently ongoing regarding design, conduct, and outcomes of nursing research. FAM HLTH

279A. Family Nursing Theory. (3) § F. Lecture 2 hours. Seminar 2 hours every other week.
S. Rankin
Course provides an introduction to family theories about systems, development, and stress. Lectures identify relation of stressors with family health or illness and examine ways to apply family theories to nursing practice. Seminars focus on interviewing techniques to assess family health. FAM HLTH

279B. Family Nursing Interventions. (3) § W. Prerequisite: N279A (Family Nursing Theory). Lecture 3 hours.
C. Gilliss
Course integrates family theoretical and therapeutic concepts. The focus is on nursing assessment and intervention strategies for identified family problems. The primary framework will utilize a systems model. FAM HLTH

279C. Cultural Issues in Family Health. (2) § Sp. Prerequisite: N 279B and consent of instructor. Lecture 1 hour. Seminar 1 hour.
F. Dreier
Course involves analysis of family, cultural, and behavioral theories and issues leading to clinical intervention in family primary care. FAM HLTH

279D. Family Self Care. (2-3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours (optional).
B. McLain
Course examines self-care activities of families and their members from a primary care perspective. Emphasis includes reviewing current theories, research, and practices related to family self care in health and illness. FAM HLTH

280. Intl Primary Health Care. (2) § W. Seminar 2 hours.
J. Lipson
Seminar is a discussion of assigned readings on the political economy and practical implementation of community-oriented primary health care programs in the international realm, including discussion of the nurse's role in such programs.MENT HLTH COM ADM

281A. Res Sem: Hlth & Its Correlates. (2) § W. Prerequisite: Enrollment in Ph.D. program in nursing or consent of instructor. Seminar 2 hours.
J. Faucett
Seminar critically examines theory and research focused on personal and environmental factors as they influence health and illness. Concepts of person, environment, and health will be analyzed and discussed as they pertain to the development of nursing science through research. MENT HLTH COM ADM

281B. Res. Sem: Hlth & Its Correlates. (3-4) § Sp. Prerequisite: N281A and enrollment in Ph.D. program in Nursing, or consent of instructor. Lab 3 hours. Seminar 3 hours.
M. Dodd, J. Hallburg
Course critically examines faculty research investigating nursing science from the perspective of person, environment, and health. PHYSIOL NURS

282. Geriatric Pharmacology (3) § W. Lecture 3 hours.
S. Echaves, C. Deitrich
Course explores clinical management of pharmacology and integration of drug therapy into the therapeutic plan and nursing care of older adults. The course focuses on drugs commonly used in multiple settings for the treatment of chronic disease and minor acute illnesses. PHYSIOL NURS

283A. Pediatric Normal/Abnormal Function. (1-3) § F. Lecture 1-3 hours.
M. Lynch
Course studies physiologic function of the cellular, neurological, and respiratory systems as modified by developmental needs, system immaturity, and pathophysiological processes in the pediatric population. Implications for pediatric nursing practice will be addressed in relation to normal/abnormal system function. FAM HLTH

283B. Pediatric Normal/Abnormal Function. (1-3) § W. Lecture 1-3 hours.
M. Lynch
Course studies physiologic function of the cardiovascular, hematological, and immunological systems as modified by developmental needs, system immaturity, and pathophysiological processes in the pediatric population. Implications for pediatric nursing practice will be addressed in relation to normal/abnormal system function. FAM HLTH

283C. Pediatric Normal/Abnormal Function. (1-3) § Sp. Lecture 1-3 hours.
M. Lynch
Course studies physiologic function of the gastrointestinal, renal and endocrine systems as modified by developmental needs, system immaturity, and pathophysiological processes in the pediatric population. Implications for pediatric nursing practice will be addressed in relation to normal/abnormal system function. FAM HLTH

284. Adolescent Health Care. (2) § F. Prerequisite: Consent of instructor. Seminar 2 hours.
M. Savedra, J. Broering
Examination and analysis of theory and research related to health care of adolescents and their families in a variety of settings. Emphasis will be on adaptation to selected stresses including trauma, chronicity, hospitalization, terminal illness and disability. FAM HLTH

285. Assessment of Women's Health. (3) § Sp. Prerequisite: Consent of instructor. Restriction: Women's Health Nurse Practitioner students. Lecture 2 hours. Lab 3 hours.
J. Neeson, L. Lommel
Course presents theoretical principles of health assessment. Areas to be covered include methodologies of data gathering and data analysis essential to comprehensive health assessment of women. The laboratory experience provides application and integration of theory. FAM HLTH

286A. Research in Stress & Coping. (3-4) § F. Prerequisite: Consent of instructor or doctoral-level theory development. Lecture 3 hours. Contract for 1 unit for proposal development (optional).
P. Benner
Course critically analyzes the relationship of stress and coping to health and illness. Examines theoretical and empirical links between coping strategies and therapeutic interventions. Emphasis is on research programs. PHYSIOL NURS

286.02B. Stress & Coping in Cancer. (3-4) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Contract for 1 unit for research proposal (optional).
P. Benner
Course examines the current nursing, behavioral, medicine, and epidemiological research relating stress and coping to the etiology and course of cancer. Theoretical and empirical links between coping resources, strategies, and helping interventions are also included. PHYSIOL NURS

287A. Organizational Theory & Research. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.
M. Flood
A critical review and analysis of major organizational theories and research. Emphasis is on open-system theories to examine characteristics of health service organization and the role of management. MENT HLTH COM ADM

287B. Behavior in Organizations. (3) § W. Prerequisite: N287A and consent of instructor. Lecture 3 hours.
J. Ezrati
Course examines the characteristics, causes, and consequences of behavior and experiences of individuals as they function in organizations. Emphasis is on personnel management and other managerial functions. MENT HLTH COM ADM

287C. Processes in Administration. (3) § Sp. Prerequisite: N287A and 287B or consent of instructor. Lecture 3 hours.
S. Neidlinger
Course provides a synthesis and application of management theories and administrative processes. Emphasis on leading, planning, organizing, controlling, decision making, managing change, and evaluating. MENT HLTH COM ADM

287D. Financial Management. (3) § W. Lecture 2 hours. Lab 3 hours.
V. Cleland
Course offers introduction to financial accounting principles as they relate to financial management in health care settings. Emphasis is on the manager's role and responsibilities in budgeting, monitoring, controlling, and in costing nursing care. Laboratory permits skill development. MENT HLTH COM ADM

288A. Executive Nursing Administration. (3) § F, W. Prerequisite: Consent of instructor. Seminar 3 hours.
Staff
Seminar offered to doctoral students, analyzing theories and research relative to executive nursing roles in

academic and service settings. Course examines administrative concepts pertaining to governance, use of power, corporate designs, and executive scholarship. MENT HLTH COM ADM

288B. Cost Methodology in Nursing. (3) § F. Prerequisite: N211.08B (Critique of Management Research) or equivalent, N287D (Financial Management) or equivalent, and doctoral study or consent of instructors. Lecture 2 hours. Field work 3 hours.
V. Cleland, S. Neidlinger
Course is a critical analysis and synthesis of accounting and economic principles relating to the cost of nursing care. Cost methodology is used to determine cost of service, cost averages, marginal costs, cost-effectiveness, and cost-benefit. MENT HLTH COM ADM

288C. Academic Administration Seminar. (3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.
Staff
Seminar designed for doctoral students in nursing administration interested in the field of administration. Course analyzes and evaluates theories, models, principles, and practices relative to administrative roles in diverse academic settings. MENT HLTH COM ADM

289. Labor Relations. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.
W. Neff
Course critically analyzes organization and exchange theories relative to managing employer-employee relations in health care and educational settings. Emphasis is on labor movement, labor legislation and regulation, contract negotiations, and grievance procedures. MENT HLTH COM ADM

290.01. Family Health Nursing Theory. (3-4) § W. Prerequisite: Enrollment in doctoral program. Lab 0-3 hours. Seminar 3 hours.
S. Rankin
Comparative analysis of classical theories and methodologies for deriving a theory base for family health nursing. Emphasis is on interactional, role, structural-functional, and systems theories. FAM HLTH

290.02. Family Health Theory. (3-4) § Sp. Prerequisite: N290.01. Seminar 3 hours. Independent Study 0-3 hours.
C. Gilliss
Course is a comparative analysis of theories/approaches for deriving a theory base for family health nursing. Emphasis is on developmental, ecological, field, conflict, stress, and adaptation theories. FAM HLTH

290.03. Family Health Theory. (3) § F. Prerequisite: N290.01 and 290.02 or consent of instructor. Enrollment in doctoral program. Seminar 3 hours. Independent Study 0-3 hours.
C. Gilliss
Individual development of a framework or model for study of a specific problem in family nursing. Emphasis is on critique of models generated by students and their applicability to research problems. FAM HLTH

291. Acute Psych Care in the Community. (2) § Sp. Seminar 2 hours.
L. Chafetz
Course reviews clinical problems encountered in acute psychiatric services in community settings. In addition to direct care issues, students have the opportunity to discuss the socio-cultural, legal, ethical, and economic factors which influence provision of services. MENT HLTH COM ADM

292A. Physiology of Pregnancy. (2) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours.
K. Lee, L. Ennis
Course reviews and analyzes advanced physiology and pathophysiology of pregnancy and their impact on the maternal-fetal unit as a basis for nursing practice and research. Emphasis is on reproductive and endocrine systems affecting adaptation and development during pregnancy. FAM HLTH

292B. Physiology of Pregnancy. (2) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
K. Lee, L. Ennis
Course reviews and analyzes advanced physiology and pathophysiology of pregnancy as a basis for practice and research. Emphasis is on cardiovascular, hematologic, neuroendocrine, and renal systems affecting adaptation and development during pregnancy. FAM HLTH

293. Nursing Serv & Educ Evaluation. (3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.
W. Holzemer
Case studies are utilized to demonstrate program evaluation in nursing service and education. JCAH and NLN criteria are examined. Evaluation designs, instrumentation, data utilization, and political components of evaluation for policy decision making are critically analyzed. PHYSIOL NURS

294. Computer Management & Clinical Data. (3) § W. Prerequisite: Preference given to students in critical care specialty. Others admitted with consent of instructor. Lecture 2 hours. Lab 3 hours.
K. Miller
Course is an analysis of critical care patient data using the computer. Emphasis is on conceptualizing the set of data needed for decision making and using the computer to aid in clinical decision making. PHYSIOL NURS

295. Quasi-Experimentation in Nsg Res. (3) § F, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.
W. Holzemer
Seminar addresses validity issues of quasi-experimentation in nursing research. Designs examined in nursing literature include non-equivalent control group designs, interrupted time-series designs, passive observation, and randomized experiments. PHYSIOL NURS

296. Teaching-Learning Processes. (4) § SS1 or SS2, W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 2 hours.
N. Okamoto
Course analyzes principles, theories and research in the field of teaching with emphasis on teaching strategies and evaluation methods applicable to clinical and educational settings. A microteaching format is incorporated for application and evaluation of selected teaching interactions. PHYSIOL NURS

297. Human Responses to Pain. (2) § F. Lecture 2 hours.
M. Savedra
Course explores research related to physiological, psychological, and social responses to human pain; nursing implications for pain assessment; and management of acute and chronic painful conditions across the life span. FAM HLTH

298. Thesis or Comprehensive Exam. (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 or taking a comprehensive examination required for the master's degree.

299. Dissertation. (0) § F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the dissertation for the Doctor of Nursing Science (D.N.S.) or Doctor of Philosophy in Nursing degree.

401. Teaching Residency. (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours.
Staff
Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

402. Administration Residency. (2-12) SS1, SS2, F, W, Sp. Prerequisite: Completion of N287A-B-C and N287D, each with a grade of *B* or higher, and consent of instructor. Lab 6-36 hours.
Staff
Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor. MENT HLTH COM ADM

403. Consultation Residency. (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours.
Staff
Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor. MENT HLTH COM ADM

404. Clinical Residency. (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours.
Staff
Student has opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor. INTERDEPARTMENTAL

404.01. Adult Primary Care Nursing–Clinical Preceptorship. (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours.
Staff
Course provides an opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor. MENT HLTH COM ADM

404.06A. Ped Clin Residency. (5) F. Prerequisite: Consent of instructor. Lab 12 hours. Seminar 2 hours. Conference 1 hour.
D. Goldman
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. FAM HLTH

404.06B. Ped Clin Residency. (5) W. Prerequisite: Consent of instructor. Lab 12 hours. Seminar 2 hours. Conference 1 hour.
P. Jackson
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. FAM HLTH

404.06C. Ped Clin Residency. (6) Sp. Prerequisite: N404.06A-B. Lab 16 hours. Seminar 1 hour.
P. Jackson
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 and chronic illness care. FAM HLTH

405. Practicum in Mental Hlth & Com Nurs. (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 mental health and community nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills. MENT HLTH COM ADM

405.01. Health Assessment of the Adult Clinical Practicum. (3) SS2. Prerequisite: Must be taken concurrently with N270. Lab 4 hours. Clinical 5 hours/week.
Staff
Application of health assessment concepts and skills under supervision of clinical preceptors. Performance of systematic health assessment of adults leading to a growing ability to differentiate between normal and abnormal findings to identify stressors that arise from physical, social, and developmental services, and to formulate an initial problem list that reflects the above. FAM HLTH

406. Practicum in Family Hlth Care Nurs. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours.
Staff
Course provides student 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. FAM HLTH

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. PHSIOL NURS

407.01 Clin Mgmnt of Older Adults. (2) § F. Prerequisite: N242B (Care of Acutely Ill Older Adults) (concurrently) and N257 (Biology of Aging). Lab 6 hours.
M. Wallhagen
Course provides opportunity for skill development in comprehensive assessment of acutely ill older adults. It emphasizes problem identification as a basis for planning scientifically based care from a multidisciplinary perspective and within the context of the life continuum. PHYSIOL NURS

410. Teaching Practicum. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours.
Staff
Supervised practice in selected components of the teaching role in nursing.

411A. Introduction to Computers. (2) § F, W, Sp. Lecture 2 hours.
R. Slaughter
Course presents overview of the impact of computer technology upon nursing. Focus is upon hardware and software for nursing in the mainframe to micro environment. Word processing for scientific writing using IBM PC is an integral part of the class. PHYSIOL NURS

411B. Fiscal Modeling. (2) § W. Prerequisite: N411A. Priority of space available to Administration students. Lecture 2 hours.
R. Slaughter
Course emphasis is on the use of the computer as a tool for the nurse manager in financial planning. PHYSIOL NURS

411C. Computers in Administration. (2) § Sp. Prerequisite: N411A-B. Lecture 2 hours.
R. Slaughter
Course provides an introduction to administrative information systems and their impact upon patient care. Emphasis will be on data base management systems in a nursing administration environment. PHYSIOL NURS

411D. Introduction to Computers. (2) § F, W. Lecture 1 hour. Lab 3 hours.
D. Chambers
Course provides an introduction to microcomputers, focusing on word processing, DOS basics and hard disk management, hardware and software applications, and purchasing a system. PHYSIOL NURS

411E. Data Management. (2) § SS1, F, W, Sp. Prerequisite: None. Biostatistics 187 or 185A-B are recommended. Lecture 1 hour. Lab 3 hours.
D. Chambers
Course offers a hands-on experience with computers and programs that can be used for data management and statistical analysis. The benefits of considering options for data collection, entry, analysis, and preparing research strategy before data are collected is emphasized. PHYSIOL NURS

Nutrition

130. Human Nutrition. (2) W. Lecture 2 hours.
Silverstein
An introduction to the basic principles of human nutrition. Subject 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. DENT PUB HLTH

160. Nutrition for the Dental Hygienist. (2) F. Lecture 2 hours.
Levine
Review of biochemical principles of nutrition related to development and maintenance of oral tissue, and the interrelationship of foodstuffs. Emphasis will be placed on practical application of nutritional assessment and counseling for dietary/behavioral change. DENT PUB HLTH

180. Nutrition Counseling for Preventive Dentistry. (1) Sp. Lecture 1 hour. Lab 1 hour. Prerequisite: Senior status in dental hygiene program, Nutrition 130B. Limited to ten students.
Talbot
Supervised practicum in nutrition counseling with dental clinic patients. Students will apply techniques of diet analysis, preventive program planning, and patient counseling. DENT PUB HLTH

200. Maternal & Infant Nutrition. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2-4 hours.
Y. Gutierrez
Application of current maternal nutrition research to train students in working with other health professionals to offer interdisciplinary maternal nutrition counseling in the prevention of low birth weight. Emphasis will be on cross-cultural factors in assessment and counseling. FAM HLTH

202. Family Nutrition Counseling. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.
Y. Gutierrez

Theory and practice in the interpretation of current concepts, principles, and research in nutrition for family counseling. Emphasis on cultural dietary patterns. FAM HLTH

208. Childhood Nutrition. (2-3) § Sp. Lecture 2 hours, Module 1 hour.
Y. Gutierrez
Course provides study of nutritional principles, concepts, and knowledge related to infants and children, both healthy and ill. Emphasis is on growth processes, feeding practices, disease-induced nutritional deficiencies, common problems, and intervention approaches. Cross-cultural aspects included. FAM HLTH

Obstetrics, Gynecology and Reproductive Sciences

110. Ob/Gyn Core Clerkship. (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Medicine 132A-B-C.
R. Glass, Braga
Basic principles and fundamental techniques in obstetrics and gynecology are discussed in a series of seminars, case discussions, and teaching clinics. Students gain practical experience in clinics, wards, delivery room, and operating room under direct supervision. OB GYN R S

140.02. Advanced Clinical Clerkships. (1.5 per week) Su, F, W, Sp. Prerequisite: Satisfactory completion of Obstetrics and Gynecology 110, Pediatrics Core Clerkship and 110, and either Medicine 110 or Surgery 110 Core Clerkships.
Braga
Advanced clinical clerkship, obstetrics and/or gynecology at other accredited hospital, as individually arranged, and approved by department OB GYN R S

140.05. Advanced Ob/Gyn Clerkship–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Satisfactory completion of Obstetrics and Gynecology 110, Pediatrics 110, and Medicine 110 or Surgery 110. Open only to 4th-year medical students of schools in U.S.A. and Canada.
Reyes, Cooke, Sueldo
Practical clinical training in obstetrics and gynecology at Valley Medical Center of Fresno. Time is divided between labor and delivery experience, gynecology ward, and obstetrics and gynecology outpatient clinic. Students will have the opportunity to see normal, high risk, and adolescent pregnancies. OB GYN R S

140.06. Advanced Ob/Gyn Clerkship–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110, Pediatrics 110, and either Medicine 110 or Surgery 110, or consent of instructor.
R. Sweet and Staff
The clerk will function as an acting intern on the gynecology inpatient service. Some gynecologic outpatient and emergency room experience will be possible as well as inpatient and surgical gynecology. OB GYN R S

140.07. Advanced Gyn Clerkship–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110, Pediatrics 110 and Medicine 110 or Surgery 110, or consent of instructor.
Braga, R. Glass
The clerk functions in the role of an acting resident on the gynecology service. Responsibilities are primarily on the inpatient service and will include both surgical and nonsurgical aspects of gynecologic oncology, endocrinology, infertility, and general gynecology. OB GYN R S

140.08. Ob/Gyn Preceptorship. (1.5 per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110 and consent of instructor and chairperson of the department.
Staff
Clinical experience in a subspecialty area or general obstetrics and gynecology under the direction of a member of the faculty. OB GYN R S

140.09. High-Risk Pregnancy–Advanced Senior Elective. (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110.
Kitzmiller and Staff
Advanced clerkship focusing on outpatient special obstetrical care clinics and inpatient management of high-risk antepartum patients. Duties will include presentations at conferences and journal clubs. OB GYN R S

150.01. Research in Ob/Gyn & Repro Sci. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department.
Staff
A nonclinical research project under the direction of a member of the faculty. OB GYN R S

160.01. First- and Second-Year Ob/Gyn Preceptorship. (1) Su, F, W, Sp. Field work 3 hours.
Brown
An opportunity for first- and second-year students to spend time in clinical faculty offices and be exposed to the field of general Ob/Gyn. OB GYN R S

170.01. Sociocultural Aspects of Nutr. (1) Sp. Seminar 1 hour.
Abrams
A survey of the social, cultural and psychological factors that determine food behavior in the individual. Lectures, discussion and readings will identify barriers to healthy food patterns. Brief written assignments and class discussions will develop practical approaches to the provision of nutritional care. OB GYN R S

198. Supervised Study. (1-5) Su, 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 chairperson of the department. OB GYN R S

199. Laboratory Project. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. OB GYN R S

222. Reproductive Endocrinology Sem. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.
Kuhn
Seminar presentations in areas of current interest in reproductive endocrinology by guest speakers and members of the Reproductive Endocrinology Center. Students will be required to submit a term paper. Course may be repeated for credit. OB GYN R S

230. Biology of Reproduction. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
Siiteri
Topics include hormonal regulation of development, growth, and function of reproductive tract organs with special emphasis on the ovaries and uterus. OB GYN R S

231. Hormone Receptor Binding. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.
J. Roberts
An in-depth assessment of the characterization of hormone receptor interactions by ligand binding methods. Lectures, assigned readings, and problems will focus on theoretical and practical aspects of techniques and data analysis. OB GYN R S

400. Staff Conferences. (1) § Su, F, W, Sp. Prerequisite: Practicing physicians only.
Jaffe and Staff
Conferences comprised of formal discussions by staff, faculty, and visiting lecturers. OB GYN R S

401. Surgical Pathology Seminar. (1) § Su, F, W, Sp.
E. Hill, Braga, H. Jones
Seminar includes the presentation of pathologic material from the obstetric and gynecologic services with formal instruction and discussions. OB GYN R S

402. Residents Core Lecture Series. (1) § Su, F, W, Sp.
Kitzmiller
Seminars include presentations of special topics, literature reviews, and discussions. Discussions of resident staff functions also are held. OB GYN R S

450. Clinical Obstetrics & Gynecology. (10) § Su, F, W, Sp.
UC **Laros,** SFGH **R. Sweet, C. Webb**
Residents are responsible for the care of patients in the hospital and outpatient clinic. Formal and individual instruction is conducted. OB GYN R S

Ophthalmology

First-Year Coordinated Instruction–Medicine 131A-B-C. Lecture-demonstrations and section work devoted to the supervised examination of patients. Core Clerkship–Surgery 110 and 111 include lectures and clinical experience in the diagnosis and care of eye diseases.

140.01A. Advanced Ophthalmology Clkshp–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110 or consent of instructor.
Drake
Students will serve as subinterns on the ophthalmology wards. They will work up and present patients, and attend surgery and postoperative clinics. This is an intensive clerkship where students will be on twenty-four hour call the entire time.
OPHTHALMOL

140.01B. Advanced Ophthalmology Clkshp–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
O'Donnell
Students will observe, work up and present ophthalmology outpatients at the Eye Clinic. They will attend department rounds and conferences.
OPHTHALMOL

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
O'Donnell and Staff
Clinical clerkship in approved hospitals by special arrangement and approval by the dean and the chairperson of the department. OPHTHALMOL

140.03A. Comprehensive Clerkship in Ophthalmology–SFGH. (1.5 per week) Su. Prerequisite: Medicine 110 or consent of instructor. One student per block.
Seiff
Students serve as subinterns on the Ophthalmology Service. They work up and present cases in the outpatient clinic and on the wards; and have the opportunity to participate in the operating room. On-call and weekend responsibilities should be expected. OPHTHALMOL

140.03B. Clinical Clerkship–SFGH. (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Consent of instructor. Two students per block except summer when one student per block.
Seiff
Clinical observations of patients in clinic, wards, and surgery at San Francisco General Hospital. OPHTHALMOL

140.04. Adv Ophthalmology Clerkship–L. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Kearney
Clinical observation of patients in the clinics, wards, and surgery at L. OPHTHALMOL

140.05. Adv Ophthalmology Clerkship–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Whitten
Under close supervision, students are involved in the clinical observation of patients in the Eye Clinic, on the wards and in surgery, and participate in departmental conferences. Main objective of the course is to enable students to perform a complete eye examination. OPHTHALMOL

140.06. Adv Ophthalmology Clerkship–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Stanley
Clinical observation of patients in clinics, wards and surgery. OPHTHALMOL

150.02. Ophthalmology Research. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department.
S. Kramer
A research project under the direction of a member of the faculty carried out in the Department of Ophthalmology. OPHTHALMOL

198. Supervised Study. (1-5) F, W, Sp.
S.Kramer
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department.
OPHTHALMOL

199. Laboratory Project. (1-5) F, W, Sp.
S. Kramer
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. OPHTHALMOL

400. Staff Conference. (1) F, W, Sp.
S. Kramer
Residents prepare and present diagnostic and therapeutic problem cases. Discussion by faculty and visitors follows. Residents also present papers on various aspects of medicine and ophthalmology, which are discussed by faculty members.
OPHTHALMOL

401. Staff Conference. (1) F, W, Sp. Prerequisite: First- and third-year residents.
S. Kramer
Conferences include grand rounds and case presentations of hospital patients, review of recent literature in ophthalmology, and assigned reading with required reports. OPHTHALMOL

402. Special Topics Seminar. (6) F, W, Sp.
S. Kramer
Seminars include didactic lectures in practical work covering pathology, neuro-ophthalmology, uveitis, physiological optics, refraction, ocular motility, glaucoma, and microbiology. OPHTHALMOL

403. Basic Ophthalmologic Science. (6) 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. OPHTHALMOL

450.Clinical Ophthalmology. (1.5 per week) Su, F, W, Sp.
M. Drake
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, extraocular muscles, medical ophthalmology, ophthalmoscopy, refraction, cataract, glaucoma, neuro-ophthalmology, plastic surgery, and tumor. OPHTHALMOL

454. Clinical Ophthalmology. (1.5 per week) Su, F, W, Sp.
UC **Beard,** CHMC **E. Stern**
Residents, under supervision, are responsible for patient care including diagnostic studies and treatment of medical eye care, diagnosis, surgery, and follow-up treatment of surgical eye cases. Residents consult for other hospital services.
OPHTHALMOL

455. Fourth-Year Residency. (1.5 per week) Su, F, W, Sp.
S. Kramer
Fourth-year residency taken at UC or at any approved institution subject to the approval of the chairperson of the department and the dean.
OPHTHALMOL

457. Clinical Ophthalmology. (1.5 per week) Su, F, W, Sp.
PH **A. Schwartz,** STM **R.N. Shaffer, Schatz,** CHS, SRM **Rathbun**, RDMC **T.Moore**
Residents or fellows, under supervision, are responsible for patient care, including diagnostic studies and treatment of medical eye care, diagnosis, surgery, and follow-up treatment of surgical eye cases. OPHTHALMOL

490. Clinical Ophthalmology. (1.5 per week) Su, F, W, Sp.
Seiff
Residents, under supervision of the attending staff, are responsible for patient care on wards and in the follow-up clinic, including diagnostic studies and consultation. This rotation is combined with patient-care. OPHTHALMOL

Oral Biology

108.01. Intro to Caries & Perio. (1) Sp. Prerequisite: Biochemistry 110A-B, Microbiology 116. Lecture 1 hour.
Winkler
Introduction to the etiology, pathogenesis, and diagnosis of dental caries and periodontal disease. STOMATOL

108.02. Micro/Immuno of Caries & Perio. (2) F. Prerequisite: Oral Biology 108.01. Lecture 2 hours.
P. Murray
An in-depth study of the microbiology and immunology of periodontal diseases and dental caries. The formation and pathogenic potential of dental plaques are discussed. STOMATOL

108.03. Cariology & Preventive Dentistry (3) W. Prerequisite: Oral Biology 108.01 & 108.02. Lecture 2 hours, seminar 1 hour.
Newbrun
Principles in the prevention and treatment of caries. Topics covered include composition and function of dentifrices, dietary factors in the pathogenesis of caries, the role of fluorides in caries prevention, and overall treatment planning for high caries risk patients. STOMATOL

111. First Year Special Study. (2) F. Prerequisite: Passing placement examination and consent of instructor. Lecture 2 hours.
Newbrun, Beirne, Bhatnagar
Discussion of biological problems of interest in dentistry including saliva, mineral metabolism, hydroxylapatite crystal structure, connective tissue, bacterial cell walls, oral bacterial metabolism, and blood coagulation. STOMATOL

116. Intro to Oral Biology. (2) F. Lecture 1 hour, lab 2 hours.
Christie
Introduction to oral biology correlating morphology, chemistry, function of dental and paradental tissues. Topics include enamel, dentin, cementum, pulp, dental caries, tooth eruption, periodontium, oral mucous membranes. STOMATOL

150. Introduction to Oral Biology. (1) F. Prerequisite: Dental Hygiene standing. Lecture 1 hour.
Christie
Introduction to oral biology correlating morphology, chemistry, function of dental and paradental tissues. Topics include enamel, dentin, cementum, pulp, dental caries, tooth eruption, periodontium, oral mucous membranes. STOMATOL

199. Laboratory Project. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 3-15 hours
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the division

208A-B-C. Oral Immunology and Immunopathology. (2-2-2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
Armitage, P.Murray, Greenspan
Lectures and seminars on immunological mechanisms and their contribution to oral diseases. Topics covered include the immunology of periodontal disease, oral microbial diseases, oral autoimmune disease, and discussions of the interface of immunopathology and inflammation. STOMATOL

209. Connective Tissue Seminar. (2) § Sp. Seminar 2 hours.
Bhatnagar
A course in connective tissue biology, concerned mainly with the development, differentiation, and pathology of connective tissues, including topics such as regulatory controls of connective tissue macromolecules, fibrosis, wound healing, inflammation, tissue destruction, and selected genetic disorders.
STOMATOL

210. Topics in Virology. (1) § Sp. Prerequisite: General knowledge of microbiology, immunology, molecular biology, or consent of instructor. Seminar 1 hour.
Pereira
Small group tutorial in which special topics in virology and correlated reading will be selected for discussion by students and staff members.
STOMATOL

215. Laboratory Rotation. (4) § F, W, Sp. Prerequisite: Consent of instructor. Lab 12 hours.
Staff
A laboratory rotation course to familiarize first-year graduate students with various approaches to research in Oral Biology. STOMATOL

220. Current Topics. (1.5) § F, W, Sp. Seminar 1.5 hours
Staff
A seminar series covering current advances in research in oral biology in a systematic manner. Current literature will be critically reviewed by students under faculty supervision, or by faculty or guest lecturers.
STOMATOL

221. Extracellular Matrices. (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.
Fisher, Damsky, Kramer
Assembly and composition of extracellular matrices, including interactions that occur between cells and matrices. Emphasis on the role of various extracellular matrices during development, function of cell-matrix interactions in the adult, and the perturbation of these relationships that accompanies various disease processes. STOMATOL

222. Mineralization. (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Oral Biology 221. Consent of graduate advisor and instructor. Seminar 2 hours.
Damsky
Recent information on cell biology and physiology of mineralized tissues, and cell biology and development of cell types that produce the extracellular matrices that are subsequently mineralized. Emphasis on process of mineralization and the hormone regulation of mineral deposition and mobilization. STOMATOL

223. Saliva and Salivary Glands. (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology

office for next offering. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.
Newbrun
This course will present recent information on the composition, regulation and function of the secretions from the major and minor salivary glands. Special consideration will be given to salivary gland dysfunction and its consequences. STOMATOL

224. Host Response. (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Consent of graduate adviser and instructor. Seminar 2 hours.
Daniels, Khoury, Pappo
Components of the immune system, survey of the various immunologic mechanisms in host responses, and current working concepts of the immune system. Overview of consequences that failure, exaggeration, or inability to distinguish self from non-self, may have for the host. STOMATOL

225. Oral Microbiology and Virology. (3) § W. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Oral Biology 224 or consent of graduate advisor and instructor. Seminar 3 hours.
Armitage, Pereira, and Staff
Current information on pathogenic mechanisms involved in oral diseases, with emphasis on the structure metabolism, genetics and ecological relationships of bacteria and viruses that affect oral tissues. STOMATOL

226. Oral Microbiology II. (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Oral Biology 225. Consent of graduate advisor and instructor. Seminar 2 hours.
Felton, Newbrun
Continuation of Oral Microbiology studies begun in Oral Biology 225. STOMATOL

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

270. Journal Club. (1) § F, W, Sp. Seminar 1 hour.
Staff
Students review a small group of related papers and examine intensively the most significant paper. Students will present four such Journal Club talks in their first two years. A written report will be required in the other quarters. STOMATOL

297. Special Study. (1-3) § F, W, Sp.
Staff
Reading and conferences under the direction of a member of the staff. STOMATOL

298. Thesis. (0) § F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the thesis for the master's degree. STOMATOL

300A-B-C-D. Teaching Practicum. (1-4, 1-4, 1-4, 1-4) § F, W, Sp, SS1. Prerequisite: Consent of instructor.
Staff
Practice in teaching in a course in oral biology under the supervision of the instructor in charge. STOMATOL

406A-B-C. Selected Topics. (1-1-1) § F, W, Sp. Seminar 1 hour.
Staff
A wide spectrum of selected topics related to oral biology is presented with emphasis on basic and applied research methodology, pertinence of problems, significance of findings, and critical evaluation of data. STOMATOL

Oral Diagnosis

139. Intro Clinical Oral Diag Sciences. (0-4) Su, F, W, Sp. Prerequisite: Successful completion of Orad 129, Rest Dent 116B&C, 126A-B-C, and Oral Med 122. Clinic 3 hours.
Danford, Migliorati, Rosenquist
Dental clinical problem solving: recognition and resolution. Clinical activities include review of medical and dental histories; examination of oral and para-oral structures; radiographic prescription, technique and interpretation; referral for appropriate medical or dental treatment; diagnosis and treatment of acute dental problems; management of the dental patient in pain, or desiring comprehensive dental treatment. STOMATOL

149. Adv Clinical Problem Solving. (0-2) Su, F, W, Sp. Prerequisite: Successful completion of Orad 129, Omed 122, Rest Dent 116B&C, 126A-B-C. Clinic 6 hours
Danford, Migliorati, Koppe
Recognition and resolution of dental clinical problems. Emphasis is on management of the patient in pain during clinic hours and on-call after hours. Students will examine oral and para-oral structures; review case histories for clinical implications for dental therapy; prescribe, make and interpret dental radiographs; treat or refer to appropriate sources. Senior students will take the place of teaching assistants for their junior partners. Seniors will present cases. STOMATOL

169. Hygiene's Role in Recog of Dental Disease. (0-1) Su, F, W, Sp. Prerequisite: Orad 129 or 159, senior dental hygiene status. Clinic 3 hours.
Danford, Angin
In the clinical setting, the students review medical and dental histories; examine oral and para-oral structures; make intra- and extra-oral dental radiographs; chart and present all findings; function as a team member in delivery of treatment of dental disease with the dental students and faculty. Emphasis is on the first patient visit for routine or emergency care to the dental school. STOMATOL

189. Acute Dental Care Clerkship. (1-10) SS1, SS2, F, W, Sp.
Danford
Advanced instruction and clinical experience in the diagnosis and treatment of acute dental problems. STOMATOL

Oral & Maxillofacial Surgery

109. Clinical Oral Surgery. (0-5) SS, F, W, Sp. Prerequisite: Third-year standing. For senior rotation, student must have passed Oral & Max. Surgery 120, 130.01, 130.02, 130.03, 131, and 132 or have consent from the course supervisor. Clinic variable.
R. Smith, Gordon, Pogrel
Students learn to recognize and treat common dental and medical emergencies; perform routine exodontia and minor oral surgical procedures; assist on major procedures in operating room setting; utilize common techniques of pain and anxiety control; assist with admission, work-up and discharge of hospital patients. ORAL & MAX SURG

120. Local Anesthesia. (0.5) Sp. Lecture 1 hour.
R. Smith, Gordon, Perrott
Course covers local anesthetics and techniques as they pertain to the dentition and oral cavity. ORAL & MAX SURG

130.01. Dentoalveolar Surgery. (1) SS. Prerequisite: Anatomy 117.01, 117.02, and Microbiology 116. Lecture 1 hour. Library research 1 hour.
Gordon, R. Smith, Perrott
An introduction to the basic principles of exodontia, dentoalveolar surgery, postoperative care, hemorrhage control, and management of common complications. ORAL & MAX SURG

130.02. Pain & Anxiety Control. (1) F. Prerequisite: Anatomy 117.01, 117.02, and Microbiology 116. Lecture 1 hour.
Gordon, R. Smith, Perrott
A didactic course outlining the basic principles and techniques of pain and anxiety control in the dental office. Emphasis is on nitrous oxide and oxygen and intravenous sedation. ORAL & MAX SURG

130.03. Diagnosis & Treatment of Oro-facial Pain. (1) W. Prerequisite: Anatomy 117.01, 117.02, and Microbiology 116. Lecture 1 hour.
R. Smith, Gordon, Kaban
A didactic course covering current advances in the field of pain and a variety of topics such as physical evaluation of the pained patient, temporomandibular joint dysfunction, myofacial pain, and neuralgic pain. ORAL & MAX SURG

131. Reconstructive Oral & Maxillofacial Surgery & Implantology. (1) Sp. Prerequisite: Oral & Max. Surgery 130.01, 130.02 and 130.03 or consent of instructor. Lecture 1 hour.
R. Smith, Kaban, N. Gordon
Procedural skills and academic knowledge the general dentist should be familiar with: includes preprosthetic surgery and implantology, treatment of developmental and acquired deformities of the jaws, infections, temporomandibular joint, fractures of the jaws and contiguous structures, osteomyelitis. ORAL & MAX SURG

132. Medical Emergencies & CPR. (1) F. Prerequisite: Third-year dental standing.
R. Smith
This course covers the prevention and management of medical emergencies in the dental office. There is discussion on the management of the medically compromised patient. CPR training is also provided. ORAL & MAX SURG

152. Oral & Maxillofacial Surgery. (0.5) F. Restriction: This course is offered for first-year dental hygiene students. Lecture 1 hour.
R. Smith, Walsh
This course offers the same lectures about prevention and management of common medical emergencies as are given to third-year dental students (OMFS 132). However, the prerequisites do not apply, and the academic standards are adjusted to the students' background. OMFS 152 does not include the CPR experience. ORAL & MAX SURG

189.04. Adv Clin Oral Surgery & Implantology. (0-16.5) SS1, SS2, F, W, Sp. Prerequisite: Fourth-year standing and approval of department chairperson.
R. Smith, Gordon
Clerkships at UC, affiliated or other institutions. Students participate in oral surgery care of ambulatory and hospitalized patients and attend seminars and conferences. ORAL & MAX SURG

199. Laboratory Project. (1-5) F, W, Sp. Prerequisite: Approval of laboratory project by department chairperson. Lab 3-15 hours.
Kaban & Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. ORAL & MAX SURG

470. Clinical Methods. (2.5) F. Prerequisite: Enrollment in a postgraduate specialty program or consent of instructor. Lecture 2 hours. Patient contact 2 hours.
Pogrel & Staff
A history, physical, and diagnosis course for patients admitted to the hospital. Techniques of examination are demonstrated and practiced in the classroom; examination of pathologic conditions is conducted at bedside. ORAL & MAX SURG

471. Applied Surgical Anatomy. (1) F, W, Sp. Prerequisite: Limited to interns and residents. Lab 3 hours.
Pogrel, Perrott
Relationships of gross anatomical structures of the head and neck are studied during laboratory dissections. Emphasis is placed on the correlation of cadaver dissection findings to diagnosis and operating room surgery. ORAL & MAX SURG

473. Orthognathic Surgery Seminar. (1) F, W, Sp. Prerequisite: Enrollment in oral & max. surgery residency or general practice residency program. Seminar 1 hour.
Kaban, Pogrel, Perrott
Residents will participate in evaluation and defining treatment options for patients with facial and dental deformities. ORAL & MAX SURG

474. Oral & Max Surgery Seminar. (1) F, W, Sp. Prerequisite: Limited to interns and residents. Seminar 1 hour.
Perrott, Pogrel, R. Smith, N. Gordon, Dodson, Kaban
Seminar includes presentation of case studies, literature review, clinical pathology presentations, and occasional guest lectures. ORAL & MAX SURG

475. Adv Clin Oral & Max Surgery. (1.5 per week) Su, F, W, Sp. Prerequisite: Limited to oral & max. surgery residents. Hospital and clinic 40 hours.
Kaban & Staff
Interns and residents, under supervision, are responsible for preparation of case records, laboratory work, preoperative patient preparation, attendance at surgery, postoperative care, and attendance at follow-up clinics. In addition, senior residents have administrative, teaching and clinical responsibilities. ORAL & MAX SURG

489.01. Clinical Oral Surgery. (1) SS1, SS2, F, W, Sp. Prerequisite: Enrollment in general practice residency or advanced education program in general dentistry. Clinic 3 hours.
R. Smith
Course is designed to teach dentoalveolar surgery, inhalation and intravenous sedation to residents in the oral surgery clinic. The trainee takes responsibility for care of the oral surgery patient including preoperative evaluation, surgery planning, and postoperative care. ORAL & MAX SURG

Oral Medicine

122. Clinical Oral Medicine. (4) Sp. Prerequisite: Oral Pathology 127A and 127B. Lecture 4 hours.
Greenspan
Introduction to recognition, diagnosis and treatment of oral manifestations of systemic diseases, and principles of clinical medicine through presentation of the mechanism, diagnosis and treatment of common organ system diseases. Will present modifications necessary for the dental treatment of patients with these diseases. STOMATOL

130. Clinical Oral Medicine. (2) Su. Prerequisite: Oral Medicine 122; second-year standing. Lecture 2 hours.
Silverman
History taking, differential diagnosis, and therapeutics. Signs, symptoms, diagnosis, and treatment of oral mucosal diseases with emphasis on oncology. Management problems and solutions. STOMATOL

139. Clinical Oral Medicine. (0-2) Su, F, W, Sp. Prerequisite: Oral Biology 126, Oral Pathology 127A-B, Oral Medicine 122. Seminar 2 hours. Clinic 2 hours.
Chinn, Zier and Staff
Group rotation through a five-week section: clinical diagnosis–patient presentation entailing history-taking, examination, diagnosis, treatment, and follow-up; and medicine—introduction to internal medicine and physical diagnosis.
STOMATOL

180A-B-C. Clinical Oral Medicine Conference. (1-1-1) F, W, Sp. Prerequisite: Fourth-year standing. Conference 1 hour.
Lozada-Nur, Silverman and Staff
Clinical pathology conference; biology, diagnosis, and treatment of various oral lesions and associated patient problems. Some oral conditions are critically re-evaluated in the light of current research advances. Specific medical knowledge is related to patient care.
STOMATOL

189. Clinical Oral Medicine. (1-6) Su, F, W, Sp. Prerequisite: Third- or fourth-year standing and consent of instructor. Clinic 3-18 hours.
Silverman
Participation in the Oral Medicine Clinic: apply knowledge of history-taking and differential diagnosis; utilize various diagnostic techniques such as biopsy, cytology, and certain clinical pathology laboratory tests; interpret results, prescribe treatment and follow-up; hospital rounds and weekly seminar.
STOMATOL

199 Laboratory Project. (1-5) F, W, Sp.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. STOMATOL

206. Oral Medicine Seminar. (1-4) § F. Seminar 1-4 hours.
Silverman
A wide spectrum of selected topics related to oral biology is presented with emphasis on basic and applied research methodology, pertinence of problems, significance of findings, and critical evaluation of data.
STOMATOL

489. Clinical Oral Medicine. (1-6) § Su, F, W, Sp. Clinic 3-18 hours.
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; interprets results, prescribes treatment, and follows up; hospital rounds; and weekly seminars.
STOMATOL

Oral Pathology

127A-B. Introduction to Oral Pathology. (0-5.5) F, W. Prerequisite: Oral Biology 126. Lecture 4.5 hours. Lab 3 hours.
T.L. Green
Course correlates clinical oral pathology with histologic changes. Emphasis is placed on the microscopic and laboratory interpretation of cellular, tissue, and chemical alterations. Laboratory sessions concentrate on clinical presentation of oral diseases.
STOMATOL

181. Forensic Odontology. (1) F, Sp. Lecture 1 hour.
Staff
Identification by means of dental evidence is known as forensic odontology. Course includes identification procedures in single and multiple deaths including homicides and mass disasters, forensic dental radiology, bite-marks and bite injury, the medico-legal autopsy, fire research, and forensic anthropology.
STOMATOL

199. Laboratory Project. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 3-15 hours
Daniels
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the division. STOMATOL

208A-B. Oral Pathology Seminar. (3-3) F, W. Seminar 3 hours.
Daniels
Lectures and seminars on diseases of the jaws, oral mucosa and salivary glands. Disease entities are studied through review of current literature and presentation of their clinical and histopathological features, with emphasis on pathogenesis, diagnosis and management. STOMATOL

408A-B. Oral Pathology Seminar. (3-3) F, W. Seminar 3 hours.
Daniels
Lectures and seminars on diseases of the jaws, oral mucosa and salivary glands. Disease entities are studied through review of current literature and presentation of their clinical and histopathological features, with emphasis on pathogenesis, diagnosis and management. STOMATOL

Oral Radiology

111. Principles of Diagnostic Radiology. (1) Sp. Lecture 1 hour.
Danford
Introduction to principles of diagnostic radiology with foundations in physical and biological science. Includes historical contributions to radiology, production of X-radiation, interactions of X rays with matter, biological effects of ionizing radiation, applications of radiological health, radiographic image formation, and photochemistry. STOMATOL

121. Radiographic Interpretation. (1) F. Lecture 1 hour.
Angin
An introduction to the fundamentals of radiographic interpretation, some of the basic physics of X-ray generation, and radiation biology. STOMATOL

129. Basic Radiographic Techniques (0-1) F, W, Sp. Lab 3 hours.
Angin
Introduces dental and dental hygiene students to basic radiographic techniques: periapical, bite-wing, occlusal, oblique and panoramic. Through the use of mannekins, provides skills necessary for the transition to the clinics. Equals lab exercises required by the California State Board of Dental Examiners for radiation safety. STOMATOL

131. Radiographic Interpretation. (1) Sp. Prerequisite: Oral Radiology 121. Lecture 1 hour.
Hatcher
Course is a continuation of Oral Radiology 121 and is intended to broaden the scope of radiographic interpretation. Additional aspects concerning radiation biology are also included. STOMATOL

186.01. Advanced Oral Radiology. (0-3) F, W, Sp. Prerequisite: Oral Radiology 121. Approval of Clinic Review Committee. Seminar 1-2 hours. Clinic 0-6 hours.
Staff
Continuation of Oral Radiology 121 and 131 in a seminar teaching format. STOMATOL

199. Laboratory Project. (1-5) F, W, Sp.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. STOMATOL

Orthodontics

121. Development of Occlusion. (1) Sp. Lecture 1 hour.
Vargervik
Course describes the mode of growth of the craniofacial complex. General aspects of growth with clinical implications for the growing child are discussed, including the eruption of teeth and their correlation with facial growth. GR DEVEL

131.01. Orthodontics in General Practice. (2) Su. Prerequisite: Orthodontics 121. Lecture 2 hours.
R. Boyd, Nielsen, G. Young
Recognition and treatment of orthodontic problems most commonly seen by the general practitioner. GR DEVEL

131.02. Orthodontics in General Practice. (2) F. Prerequisite: Orthodontics 121. Lecture 2 hours.
R. Boyd, Nielsen, G. Young
Recognition and treatment of orthodontic problems most commonly seen by the general practitioner. GR DEVEL

139. Clinical Orthodontics. (0-1) Su, F, W, Sp. Prerequisite: Orthodontics 121, 131.01 and 131.02. Orthodontics 131.01 or 131.02 may be taken concurrently. Clinic 3 hours.
R. Boyd, G. Young
Evaluation and treatment of clinical orthodontic problems as experienced in general dental practice. Students will treat problems and refer others to specialists. GR DEVEL

160. Orthodontic Concepts. (1) Sp. Lecture 1 hour.
R. Lee
A discussion of recognition, etiology, and principles of orthodontics for the dental hygienist. GR DEVEL

170A-B-D-E. Orthodontic Diagnosis. (1-1-1-1) SS1, SS2, F, W. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.
E. West
Classification, etiology, and diagnosis of malocclusion. The various diagnostic modalities used in patient evaluation and treatment planning will be presented. GR DEVEL

170.01A-B-C. Journal Club. (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Seminar 1 hour.
E. West
A participation course in the review, analysis, and critical evaluation of the professional literature dealing with orthodontics and its related fields. GR DEVEL

171. Orthodontics in Periodontic Prac. (1) W. Prerequisite: Consent of instructor and enrollment in a postdoctoral specialty program. Lecture 1 hour.
E. West
Course includes orthodontic principles and technics that are applicable in a periodontic practice. GR DEVEL

171.01D. Concepts of Occlusion. (1) SS1. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.
I. Nielsen
Various concepts of occlusion and its biological determinants will be discussed as they affect functional problems of the temporomandibular joint. GR DEVEL

171.02A-B-C. Practice Management. (2-2-2) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontics or pediatric dentistry program or consent of instructor. Lecture 2 hours.
R. Meyer
A survey course intended to prepare the student to deal with the realities of managing an orthodontic practice. Thirty-six topics are explored and discussed by students and faculty. Several visitors representing different areas are invited to present guest seminars. GR DEVEL

171.03. Functional Appliance Therapy. (2) SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 2 hours.
Scholz
This course is designed to provide the skills necessary to select the appropriate functional appliance, design the appliance, instruct the laboratory in the making of the appliance, and manage the patient's treatment to a successful conclusion. GR DEVEL

171.05A-B-C-D-E. Growth & Development. (1-1-1-1-1) F, W, Sp, SS1, SS2. Lecture 1 hour.
Isaacson, Nielsen
Orthodontic applications and implications of basic craniofacial growth and development. GR DEVEL

172A-B-C-D-E. Evaluation of Facial Form I. (2-2-2-2-2) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 2 hours.
Nielsen
Use of diagnostic radiography in the evaluation of dental and facial morphology is presented. Evaluation of morphological relationships, facial growth and development, skeletal maturation, the biological response to treatment modalities, and the complex interrelationship of these factors will be discussed. GR DEVEL

172.01A-B-C. Research Design. (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.
Baumrind
Principles of statistics and research design will be explored. Topics include statistical inference, hypothesis testing, analysis of variance, correlation, and multiple regression. The design of experimental and quasi-experimental research will be discussed and experience in computer software usage provided. GR DEVEL

172.02. Independent Research. (0-3) SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor.
Litt, Baumrind
Independent research experience. GR DEVEL

172.03A-B-C. Evaluation of Facial Form II. (2-2-2) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontics or pediatric dentistry program or consent of instructor. Lecture 2 hours.
Nielsen
Course teaches diagnosis, treatment planning, and treatment of all types of malocclusions on a systematic basis. The biologic basis for orthodontic treatment with respect to facial growth and development and the application of differential diagnosis is presented. GR DEVEL

173A-B-C. Orthognathic Surgery Conference. (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.
E. West
Postdoctoral students in orthodontics, prosthodontics, and oral and maxillofacial surgery will participate in evaluating and planning treatment for patients with facial and occlusal deformities requiring combined multidisciplinary therapy. Periodic review and presentation of previously treated patients will be included. GR DEVEL

173.01A-B-C-D-E. Orthodontic Seminar. (3-5,3-5,3-5,3-5,3-5) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry programs or consent of instructor. Seminar 3-5 hours
E. West
Evaluation and treatment planning of various types of malocclusion will be presented. The seminars will include discussions of various basic science, clinical science, and general biological principles, as they apply to the field of orthodontics. GR DEVEL

173.02. Private Practice Seminar. (0-3) F, W, Sp. Prerequisite: First-year postdoctoral Orthodontic program. Seminar 1 hour.
Righellis
This seminar is designed to integrate the second-year residents' postdoctoral orthodontic education with the private practice of orthodontics. GR DEVEL

174. Biomechanics & Tooth Movement. (2) W, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 2 hours.
Yoshikawa
Fundamental concepts of force systems will be presented. Included are equilibrium, force equivalency, and free-body analysis. Concepts will be related to orthodontic tooth movement, appliance design, and biological response to force application. GR DEVEL

174.01. Periodontics & Orthodontics. (1) Su. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1-2 hours.
R. Boyd
Current literature in periodontics and orthodontics is reviewed and discussed. Case presentations involving treatment between the two specialists are discussed and evaluated by students and faculty. Emphasis is placed on the advances in preventive procedures and their impact on orthodontic practice. GR DEVEL

174.02. Orthodontic Techniques. (1) SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.
Nielsen
A lecture and participation course designed to familiarize the postdoctoral student with orthodontic appliances, their fabrication, and adjustment. GR DEVEL

175A-B-C. TMJ Pain & Dysfunction Seminar. (0-3) F, W, Sp. Prerequisite: Resident standing in Orthodontics. Seminar 1 hour.
McNeill, Nielsen
This course will provide the resident with the basic cognitive skills for recognizing, diagnosing, and treating patients with TMJ pain, TMJ dysfunction, and craniofacial pain in a "team environment" (i.e., prosthodontist, orthodontist, oral surgeon, psychologist, neurologist, ENT, physical therapist, etc.). GR DEVEL

176A-B-C. TMJ Pain & Dysfunction Clinic. (0-3) F, W, Sp. Prerequisite: Resident standing in Orthodontics. Clinic 3 hours.
West, Nielsen, McNeill
This course will provide the resident with the basic clinical skills for recognizing, diagnosing, and treating patients with TMJ pain, TMJ dysfunction, and craniofacial pain in a "team environment" (i.e., prosthodontist, orthodontist, oral surgeon, psychologist, neurologist, ENT, physical therapist, etc.). GR DEVEL

179.01A-B-C-D-E. Clinical Orthodontics I. (0-7) SS1, SS2, F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontics or pediatric dentistry program or consent of instructor. Lab variable. Clinic 0-21 hours.
Lee
Diagnosis, treatment, and evaluation of clinical postdoctoral orthodontic problems as experienced in modern orthodontic practice. Students will treat patients with a broad spectrum of orthodontic problems. Students will work with other specialists in the management of complex orthodontic problems. GR DEVEL

179.03A-B-C-D-E. Clinical Orthodontics II. (0-7) SS1, SS2, F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lab variable. Clinic 0-21 hours.
Boyd
Diagnosis, treatment, and evaluation of clinical postdoctoral orthodontic problems as experienced in modern orthodontic practice. Students will treat patients with a broad spectrum of orthodontic problems. Students will work with other specialists in the management of complex orthodontic problems. GR DEVEL

179.05A-B-C-D-E. Ortho General Interaction. (1-1-1-1-1) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Clinic 3 hours.
R. Boyd
Evaluation and treatment of clinical orthodontic problems, as experienced in general dental practice. Postdoctoral students will assist and supervise general dental students in the diagnosis, evaluation, and treatment of orthodontic problems. Emphasis is on the relationship between generalist and specialist. GR DEVEL

181. Adv Orthodontics in Gen Practice. (0-3) F, W, Sp. Prerequisite: Orthodontics 131B. Seminar 1 hour.
R. Boyd and Staff
Third- and fourth-year dental students will participate in weekly one-hour discussions of clinical aspects of orthodontic therapy using patient records as a basis of discussion. Students may elect to participate two hours per week in off-campus seminars. GR DEVEL

Orthopaedic Surgery

First-Year Coordinated Instruction—Medicine

131A-B-C. Lecture-demonstrations and section work devoted to the supervised examination of patients.

Core Clerkship—Surgery 110 and 111 include seven to eight orthopaedic lectures, case presentations, and outpatient clinic assignments. Students are given instruction in methods of examination of patients with musculoskeletal disorders, with emphasis on diagnosis and principles of treatment.

140.01A-B-C-D. Clin Clkshp–UC-SFGH-SFGH ER-VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. Must be a senior.
W. Murray, Day, Maurer
Students, assigned to inpatient and outpatient services, receive instruction and experience in examination and treatment of patients. Assistance in surgery and in use of treatment modalities is required. Clinical demonstrations, seminars, and conferences form the basis for didactic instruction. ORTHO SURG

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111.
W. Murray
Orthopaedic surgery clinical clerkships are offered in off-campus hospitals approved by the chairperson of the department and the dean. ORTHO SURG

140.03. Rehabilitation Medicine–S & VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Pediatrics 110.
Carpendale
Course will provide knowledge and skills in electrodiagnosis, neurologic rehabilitation, spinal cord injury, closed head trauma, the rheumatoid patient, orthopaedic rehabilitation, hazards of bed rest, and acute and chronic low back pain. ORTHO SURG

150.01. Research in Orthopaedic Surgery. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111 and permission of instructor.
Day
Research project under direction of a member of the faculty. ORTHO SURG

160.01. Fracture Conference. (1) Su, F, W, Sp. Conference 1 hour.
Skinner
Fracture conference on patients admitted to the emergency room, with emphasis on X-ray findings and treatment modalities. ORTHO SURG

401. Orthopaedic Pathology. (1) F, W, Sp. Prerequisite: Third- and fourth-year residents.
UC **J. Johnston**
A lecture series covering tumors and infections of the musculoskeletal system, illustrated by microscopic slides and photographs of gross specimens. ORTHO SURG

402. Musculoskeletal System Physiol. (1) F, W, Sp.
UC **Day**
Seminars cover connective tissue metabolism; muscle, bone, and joint physiology; preoperative and postoperative management of patients; wound infections; microbiology; and surgical principles. ORTHO SURG

403. Gross & Functional Anatomy. (1) F, W, Sp.
UC **Day**
Course includes lectures by students and faculty on gross and functional anatomy, laboratory dissections of cadaver material, and demonstrations of surgical approaches. ORTHO SURG

404. Orthopaedic Literature. (1) F, W, Sp. Residents at C, RDMC, SFGH, SSF, UC and VA.
UC **Day**
Seminars are student presentations of selected orthopaedic surgery subjects featuring historical review complete with bibliography. They are moderated by an assigned faculty member. ORTHO SURG

406. Orthopaedic Medical Staff Conf. (1) Su, F, W, Sp.
UC **W. Murray**
Clinical instruction in the care and management of orthopaedic problems in rheumatoid arthritis and allied diseases. Cases are presented by residents to attending staff and rheumatology consultants. ORTHO SURG

407. Orthopaedic Surgical Conference. (1) Su, F, W, Sp.
H **Slabaugh**
Seminars include presentation of problem cases by residents for consideration of diagnosis, treatment, and discussion by the attending staff. ORTHO SURG

408. Orthopaedic Surgical Conference. (1) Su, F, W, Sp.
SFGH **L. Day**
Selected problems are illustrated by cases treated or under treatment. Cases are presented by the resident staff and discussed by members of the attending staff. ORTHO SURG

409. Orthopaedic Surgical Conference. (1) Su, F, W, Sp.
SSF **Ashley**
Conference with emphasis on children's problems in which residents make case presentations of inpatients

for review and of new patients for consideration of diagnosis and therapeutic plan. ORTHO SURG

411. Orthopaedic Surgical Conference. (1) Su, F, W, Sp.
VA **Maurer**
Conference includes review of admissions and discharges of hospitalized patients by the attending and consulting staffs. Cases are presented by the residents. ORTHO SURG

412. Orthopaedic Clinical Seminar. (1) Su, F, W, Sp.
CHMC **Debenham, H Slabaugh, SM Jensen**
Seminars are held in rotation at each of these hospitals with residents from all three hospitals attending. They include literature review and demonstrations related to surgical approaches, anatomical dissections, diagnosis, and treatment. ORTHO SURG

413. Orthopaedic Surgical Conference. (1) Su, F, W, Sp.
Staff
Residents prepare and present case histories of inpatients and selected outpatients. Course includes discussions on diagnostic procedures, indications for surgery, immediate postoperative follow-up, and problem cases (consultations). ORTHO SURG

414. Hand Surgery Conference. (1) Su, F, W, Sp.
L. Gordon
Conference includes presentation of case studies in hand surgery with central subject for each session. ORTHO SURG

450. Clinical Adult Orthopaedics. (1.5 per week) Su, F, W, Sp.
RDMC **Bloom,** PMC **McCarroll,** KP **J. Johnston,** MZ **Glick,** UC **W. Murray**
Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations. ORTHO SURG

451. Clinical Pediatric Orthopaedics. (1.5 per week) Su, F, W, Sp.
C **L. Larsen,** CHMC **Debenham,** SSF **Ashley**
Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques and consultations. ORTHO SURG

452. Traumatic & Adult Orthopaedics. (1.5 per week) Su, F, W, Sp.
SFGH **L. Day,** SM **Jensen,** VA **Maurer,** H **Slabaugh**
Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations. ORTHO SURG

453. Clinical Orthopaedics. (1.5 per week) Su, F, W, Sp. Chief resident.
UC **W. Murray**
Under faculty supervision, the chief resident organizes care and referral of staff patients; supervises a weekly follow-up clinic; administers the teaching-bed fund; independently performs operative procedures in selected cases; advises interns, residents, and fourth-year medical students; participates in paramedical teaching. ORTHO SURG

455. Clinical Sports Medicine. (1) Su, F, W, Sp.
J. Glick and Staff
Clinical instruction in the care and management of orthopaedic problems in athletic injuries. Course consists of clinical practice under supervision as well as didactic lectures every third week. ORTHO SURG

490. Clinical Orthopaedics–SFGH. (1.5 per week) Su, F, W, Sp.
L. Day
Residents-I rotate through orthopaedic wards and follow-up clinics. They are responsible for patient care under the direction of the attending staff, including history-taking, physical examinations, X-ray conferences, and consultations. ORTHO SURG

Otolaryngology

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

Core Clerkship—Surgery 110 and 111 include lectures and case demonstrations on the examination and diagnosis of otolaryngological diseases, particularly those related to trauma and infection. Instruction is given in the examination and diagnosis of ward and clinic patients with otolaryngological surgical diseases.

140.01A. Adv Otolaryngology Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.
Boles
A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

140.01B. Adv Otolaryngology Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.
Kaplan
A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

140.01C. Adv Otolaryngology Clkshp–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.
Wildes
A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and

throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

140.01D. Adv Otolaryngology Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.
R. Wong
A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

140.01E. Adv Otolaryngology Clkshp–NRMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.
Taylor
A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.
Boles
Clinical clerkships in off-campus hospitals approved by the chairperson of the department and the dean. OTOLARYN

140.03. Otology and Neurotology. (1.5 per week) Su, F, W, Sp. Prerequisite: Third or fourth year (fourth preferred).
Jackler, Schindler
A course in basic audiometric and vestibular testing; diagnosis and management of diseases of the ear and skull base; and experience with surgery for hearing restoration, treatment of vertigo, and for removal of ear and skull base neoplasms. OTOLARYN

150.01. Research in Otolaryngology. (1.5 per week) Su, F, W, Sp. Prerequisite: Must be third- or fourth-year medical student. Must have approval of Chairman, Dean, and research faculty involved.
Schindler, Merzenich, and Research Faculty
Research project under the direction of a member (or members) of the Department of Otolaryngology. OTOLARYN

198. Supervised Study. (1-5) F, W, Sp. Prerequisite: Consent of instructor.
R. Schindler
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. OTOLARYN

199. Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor.
Merzenich
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. OTOLARYN

400. Didactic Lectures. (2) Su, F, W, Sp.
Boles
Lectures cover the anatomical, physiological, and clinical aspects of otolaryngology. OTOLARYN

401. Head & Neck Surgical Anatomy. (1) Su. Seminar 2 hours.
Kaplan
Didactic sessions in the surgical anatomy of the head and neck. Supplemental dissections included. OTOLARYN

404. Staff Rounds. (2) Su, F, W, Sp.
Boles
Weekly seminars are held with discussion of current problems concerning diagnosis and management of patients with references to current literature, modern theory, and controversial aspects. OTOLARYN

406. Tumor Conference. (1) Su, F, W, Sp.
UC **Kaplan**
Conference includes presentation of patients, study of histories, and discussion of the treatment of the patient in light of modern progress in the field. OTOLARYN

407. Head & Neck Plastic Surgery. (1) Sp. Seminar 2 hours.
Wildes
Basic science and clinical aspects of cosmetic facial surgery and reconstructive surgery of the head and neck are covered in a weekly one-hour seminar. Slide presentations, videotape movies, didactic lectures, and anatomic dissections constitute the curriculum. OTOLARYN

410. Temporal Bone Anat & Pathology. (0.5-0.5) F. Laboratory 2 hours.
Jackler
A laboratory course conducted in the ear, nose, and throat pathology laboratory. All resident staff members are required to familiarize themselves thoroughly with the microscopic anatomy of the temporal bone under formal staff instruction. OTOLARYN

412. Tumor Board. (1) Su, F, W, Sp.
VA **Kaplan**
Tumor cases are presented for diagnosis and recommendations for treatment. OTOLARYN

413. Audiology Conference. (1) Su, F, W, Sp.
VA **Kaplan**
Combined Audiology and Otolaryngology Staff Conference where all patients evaluated for hearing problems are presented, and diagnosis and treatment recommendations are made. OTOLARYN

415. Otolaryngology Fundamentals Course. (1) W. Seminar 2 hours.
Jackler, Kaplan, Sooy
A review of fundamental principles of otolaryngology head and neck surgery, encompassing both the basic and clinical sciences. This course is intended as a comprehensive review for the yearly "in service" training examination as well as preparation for board certification. OTOLARYN

450. Clinical Otolaryngology. (10) Su, F, W, Sp.
UC **Boles,** SFGH **Wildes,** VA **Kaplan,** C **P. Bartlett**
Residents, under supervision, are responsible for patient care in the wards and outpatient clinics including history-taking, physical examination, laboratory tests, preoperative and postoperative care, minor surgery, audiometry, vestibular testing, and consultations. Senior resident has certain administrative, teaching, and clinical responsibilities. OTOLARYN

490. Clinical Otolaryngology–SFGH. (1.5 per week) Su, F, W, Sp.
Wildes
Interns, under supervision of the attending staff, are responsible for patient care on wards and in the follow-up clinic, including history-taking, examination, and consultation. This rotation is combined with patient-care assignments in the Ophthalmology Service. OTOLARYN

Parasitology

135. Medical Parasitology. (3) W. Lecture 2 hours. Lab demonstration 2 hours.
Heyneman and Staff
An introduction to the protozoa, helminths, and anthropods that parasitize man. Parasite ecology and disease epidemiology, clinical and diagnostic aspects of parasite diseases and their treatment are considered in lecture and laboratory. Emphasis in the laboratory is on demonstration. EPID INTL HLTH

Pathology

101. General & Systemic Pathology. (4) F. Prerequisite: Substantive courses in anatomy, biochemistry, physiology, histology, microbiology (or concurrent enrollment), concurrent enrollment in Medicine 132A. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours. Lab 2 hours.
Ferrell
Mechanisms and language of disease are discussed, with emphasis on cell injury, inflammation, infectious agents, repair, regeneration, hemodynamic derangements, neoplasia. Recent advances and classical concepts of diseases as they affect the heart and blood vessels, lungs, gastrointestinal tract are presented. PATHOLOGY

102. Systemic Pathology. (3) W. Prerequisite: Pathology 101. Lecture 3 hours. Lab 2 hours.
Ferrell
Recent advances and classical concepts of diseases as they affect the following organ systems are presented: pancreas, liver, central nervous system, kidney, endocrine system, skin. Emphasis will be on correlation of functional and morphologic characteristics of diseases of organ systems. PATHOLOGY

103. Systemic Pathology. (3) Sp. Prerequisite: Pathology 102. Lecture 3 hours. Lab 2 hours.
Ferrell
Recent advances and clinical concepts of diseases as they affect the following organ systems are presented: reproductive systems, skeletal system, hematopoietic system, and lymph nodes. Emphasis will be on correlation of functional and morphologic characteristics of diseases of organ systems. PATHOLOGY

126. General Pathology. (5) § F. Prerequisite: Substantive courses in biochemistry, physiology, histology, microbiology (first quarter, concurrent) or an introduction to immunology. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours. Lab 6 hours.
Stern
Mechanisms and language of disease are discussed, with emphasis on the dynamic nature of fundamental disease processes: cell injury, immunopathology, inflammation, responses to infectious agents, repair, regeneration, hemodynamic derangements, genetic disorders, disturbances of cell growth, and neoplasia. PATHOLOGY

135. General Pathology. (3) F. Prerequisite: Substantive courses in biochemistry, physiology, histology, microbiology (first quarter, concurrent) or an introduction to immunology. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours.
Stern
This course is identical to the lecture portion of Pathology 126. PATHOLOGY

135.01. General Pathology. (3) F. Prerequisite: Enrolled in academic program in Physical Therapy and completion of prerequisite coursework in human physiology and microbiology. Open only to students enrolled in the curriculum or by consent of program director. Lecture 3 hours.
Stern
Mechanisms and language of diseases are discussed, with emphasis on the dynamic nature of fundamental disease processes such as cell injury, immunopathology, inflammation, response to infectious agents, repair and regeneration, hemodynamic arrangements, genetic disorders, disturbances of cell growth and neoplasia. PATHOLOGY

150.01. Surgery and Autopsy Pathology. (1.5 per week) Su, F, W, Sp. Prerequisite: Pathology 101. Consent of instructor. Enrollment limited.
Finkbeiner, Montgomery, Howes
This clerkship is designed to acquaint students in the available techniques of tissue analysis and their application to diagnosis and patient care. The student is given training and responsibilities in surgical and/or autopsy pathology similar to those of first-year residents.

150.02. Off-Campus Pathology Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Pathology 101 and 102.
Bainton

Clinical clerkships in off-campus hospitals approved by the chairperson of the department and the dean. PATHOLOGY

150.05. Research. (1.5 per week) Su, F, W, Sp.
McKerrow, Parslow, Yen
The staff of the Pathology Department have various ongoing research interests and have a number of projects for students to work on. Requires approval of the Dean and the Department. Obtain necessary forms from the Office of Curricular Affairs. PATHOLOGY

150.06. Surgical Pathology–VMC. (1.5 per week) F, W, Sp. Prerequisite: Pathology 102 and consent of instructor.
H. M. Price, Bezmalinovic
Clerkship is designed to acquaint students with available techniques of tissue analysis, from light microscopic to micromolecular levels, and their application in diagnosis and surgical care. Experience includes postmortem examination, review of surgical biopsies and frozen sections, electron microscopy. PATHOLOGY

150.07. Pathology Research/Service (1.5) Su, F, W, Sp. Prerequisite: Pathology 101, 102, 103 and consent of dean of the department. Third-year standing. One-year program starting in the summer quarter.
Ferrell, Cohen
This one-year course, with stipend (starting in Summer quarter), acquaints student-fellows with techniques in autopsy and surgical pathology and their application to diagnosis and patient care, as well as research. The training and responsibilities are similar to residents'.
PATHOLOGY

160. General Pathology. (1) F. Prerequisite: Courses in biochemistry, physiology, histology, microbiology, and an introduction to immunology. Lecture 1 hour for ten weeks.
Stern
Mechanisms of disease with emphasis on dynamic nature of fundamental disease processes: cell injury, immunopathology, inflammation, responses to infectious agents, repair, regeneration, hemodynamic derangements, disturbances of cell growth, and neoplasia. DENT PUB HLTH

170.01. Clinical Cytology. (3) Sp. Prerequisite: Anatomy 102, Pathology 101 and 102.
E. King, E. Hill
Lectures on basic fundamentals of cytology, normal cells, malignant cells, abnormal non-malignant cells, collection, and preparation methods. Microscopic examination of specimen and correlation of cellular and tissue pathology with colposcopic and clinical findings on examination of the patient.
PATHOLOGY

170.04. Anatomy Pathology Conference. (1) F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. Conference 1 hour.
Staff
Presentation of selected current cases seen in the hospital pathology laboratory. Discussion of pathological findings, and correlation with clinical and radiologic findings and treatment. PATHOLOGY

170.05. Neuropathology. (2) W. Prerequisite: Pathology 102. Third- or fourth-year standing. Lecture and seminar 2 hours.
D. Davis, DeArmond
Emphasis is placed on clinicopathological correlation of neurological diseases by means of study of gross and microscopic material and participation in conferences. PATHOLOGY

170.08. Studies in Pathology. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department.
Staff
Studies in pathology at other institutions with the approval of the chairperson of the department. PATHOLOGY

170.09. Clinicopathological Weekly Case. (1) W, Sp. Prerequisite: Pathology 101, enrolled in Pathology 102/103. Restriction: Second-year medical students. Seminar 1 hour.
Margaretten, Isenberg.
A weekly case discussion conference at which students will generate a differential diagnosis, examine gross and microscopic pathologic specimens, and discuss the pathophysiology of the case. PATHOLOGY

170.10. Immunological Mechanisms in Human Disease. (1.5) F. Prerequisite: one year basic science courses (graduate, medical, or dental) or consent of instructor. Lecture 1 hour. Seminar 0.5 hour.
McKerrow
An introductory course in immunopathology and clinical immunology that will review how basic immunological research is applied to diagnosing and understanding human disease. Topics will include transplant immunology, immunoparasitology, immune deficiency diseases, tolerance, and autoimmune diseases. PATHOLOGY

170.11. Problems of Medical Delivery in White Androcentric Society. (1) W. Seminar 1 hour.
Stern
Feminist readings: how language can be a tool of oppression; how power structure of society maintains hegemony by defining "pathology"; how women, people of color, and gays are marginalized in this context. Explores how doctor-patient dialogue interferes with medical care. PATHOLOGY

180.01. General Pathology. (3) F. Prerequisite: Anatomy 118. Lecture 3 hours.
Stern
This course is identical to the lecture portion of Pathology 126. Elective in the dental hygiene curriculum. PATHOLOGY

198. Supervised Study. (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 chairperson of the department. PATHOLOGY

199. Laboratory Project. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. PATHOLOGY

209. Applied Pathology. (3) § W. Prerequisite: Microbiology 126A-B and Pathology 126 or equivalents.
J. 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. PATHOLOGY

215. Laboratory Rotation. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lab 9 hours.
Parslow
A laboratory rotation course, to familiarize students with various approaches to experimental pathology and research in the basic medical sciences, particularly in relationship to human disease processes. Intended primarily for new graduate students.
PATHOLOGY

225. Connective Tissue Research Sem. (4) § F, W, Sp. Seminar 4 hours.
R. Stern
Students and faculty review literature and discuss current concepts and experiments in connective tissue research. Included are role of structural proteins, such as collagen and elastin in pathology, cell matrix, interactions in developmental biology and morphogenesis.
PATHOLOGY

230. Experimental Pathology Seminar. (2) § F, W, Sp. Prerequisite: Permission of the graduate advisor of the department. Lecture 1 hour. Seminar 1 hour.
Parslow
Presentation of current research by graduate students. Topics in pathology and disease mechanisms. Faculty from basic and clinical sciences will discuss current research in a disease process. Advanced reading in that disease will be assigned before class. There will be formulation of test-hypothesis and discussion of an experimental design lead by a student leader at each session. PATHOLOGY

240. Concepts in Parasitic Diseases. (4) W. Lecture 2 hours. Seminar 2 hours.
Bainton, Sakanari, Deneris
This course is for students interested in learning current issues on parasitic diseases (drug design, public health aspects, biochemical parasitology). Invited speakers give seminars on their area of expertise. Students evaluate papers relevant to concepts presented by the speakers. PATHOLOGY

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

297. Molecular Biology of Human Disease. (3) § Sp. Prerequisite: Open to graduate students, housestaff, and SMSTP students. Lecture 1 hour, seminar 2 hours.
McKerrow
The course is designed to provide students with an up-to-date summary of our knowledge of atherosclerosis with particular emphasis on application of techniques of molecular and cell biology to understand both the pathogenesis and genetics of the disease. PATHOLOGY

298. Thesis. (0) § F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the thesis for the master's degree. PATHOLOGY

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

301. Teaching Practicum. (3) F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 2 hours.
Ferrell
Practice in teaching pathology under faculty supervision. Students supervise laboratory work, conduct conferences, and assist in preparing and grading examinations. Responsibilities are assigned according to the individual's stage of development.
PATHOLOGY

400. Pathology & Lab Med Seminar. (1) F, W, Sp. Interns and residents. Prerequisite: Medicine 110 and Surgery 110 or consent of instructor. Seminar 1 hour.
Staff
Recent developments in diagnosis and research in pathology and laboratory medicine are discussed by faculty and guest speakers. PATHOLOGY

401. Special Topics Seminar. (Units to be arranged) Su, F, W, Sp. Interns and residents.
Staff
Seminars focusing upon the pathology of specific organ systems are conducted by specialists. Emphasis is on the correlation between clinical manifestations of the disease and pathologic findings.
PATHOLOGY

402. Pathology Research. (1-8) Su, F, W, Sp. Interns and residents.
Staff
Students, under supervision, pursue original investigation in pathology and allied subjects. Investigators

review the literature, make observations, and correlate physiological with pathological concepts. PATHOLOGY

405. Dermatopathology. (2) F, W, Sp. Prerequisite: Pathology 101 or equivalent by consent of instructor. Lab 2 hours. Seminar 1 hour.
Sagebiel
Survey of inflammatory and neoplastic skin diseases by study of histopathological changes and discussion with emphasis on clinical-pathologic correlations. PATHOLOGY

450. Pathologic Anatomy. (5-10) Su, F, W, Sp. Required for interns; elective for residents.
Staff
Theory and methodology of pathologic anatomy, interpretation and correlation of data, and study of literature. PATHOLOGY

455. Electron Microscopy Seminar. (1) W. Prerequisite: Medicine 110 and Surgery 110 and consent of instructor. Lecture 1 hour. Elective for interns and residents.
Staff
Course covers basic electron microscopic techniques, indications for use of electron microscopy in pathologic diagnosis, and the specific ultrastructural features of normal and diseased tissue. Emphasis is placed on renal biopsy and tumor diagnosis. Documented attendance is required. PATHOLOGY

495. Pathologic Anatomy. (1.5 per week) Su, F, W, Sp. Required for interns.
Staff
Theory and methodology of pathologic anatomy, interpretation and correlation of data, and study of literature. PATHOLOGY

Pediatric Dentistry

130B-C. Pedodontic Procedures–UC. (1, 2) W, Sp. Prerequisite: Satisfactory completion of Operative Dentistry 125 A-B-C. Lecture W. 1 hour; Sp. 2 hours
Braham
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. GR DEVEL

139. Clinical Rotation. (0-1) Su, F, W, Sp. Prerequisite: Third-year standing. Clinic 3 hours per week.
Braham and Staff
This clinic rotation will introduce students to examination of the child patient, treatment planning, prevention instruction, dietary analysis and counseling, and performing operative procedures. Proper management of the child patient will be stressed. GR DEVEL

149. Advanced Clinical Rotation–UC & CHMC. (0-2) Su, F, W, Sp. Prerequisite: Fourth-year standing and satisfactory completion of Restorative Dentistry 139. Clinic 6 hours per week.
Braham, and Staff
Oral examination, treatment planning, and treatment of children, including behavioral management. Time will be spent at Pediatric Dental Clinics at UCSF and Children's Hospital Medical Center, Oakland. Course will involve clinic, seminar, and treatment in hospital operating room with general anesthetic. GR DEVEL

170D-E. Intro to Ped Dent. (2-2) SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 2 hours.
Rothman and Staff
Course is offered to the incoming postdoctoral student as an introduction to the philosophies and techniques of rendering clinical treatment to patients in pediatric dentistry. GR DEVEL

171A-B-C-D-E. Advanced Ped Dent Sem. (5-5-5-5-5) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor. Seminar 5 hours.
Rothman and Staff
Will discuss the state of the art of all aspects of contemporary pedodontic diagnosis and treatment. The instruction embraces not only a review of historical perspectives but also research and clinical essays in current diagnostic activities and treatment modalities. GR DEVEL

172D-E. Pediatric Physical Diagnosis. (1-1) SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 1 hour.
Rothman
Course is designed to provide knowledge of clinical pediatrics. It will include didactic and clinical experiences in history-taking and physical diagnosis. GR DEVEL

172.11A-B-C. Pediatric Medicine. (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Seminar 1 hour.
Rothman
Course will provide information on various topics of health care of children. Emphasis will be placed on the etiology, diagnostic procedures, prognosis, and management of common pediatric conditions. GR DEVEL

173C. Clinical Uses of Fluorides. (2) Sp. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 1 hour. Seminar 1 hour.
Rothman
Course gives a comprehensive update on the clinical uses of fluoride in pediatric dentistry. It is a combined lecture and seminar course. A term paper on an assigned topic is also required. GR DEVEL

173.11B-C. Dentistry for the Disabled. (1-1) W, Sp. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor.
Braham and Staff
Course provides knowledge of the congenital and acquired disabilities in children and adolescents. There is emphasis on the etiology, diagnosis, medical, and dental management, and prognosis of these conditions. GR DEVEL

174A-B-C-D-E. Lit Survey in Ped Dent. (1-1-1-1-1) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor.
Barkin and Staff
Course reviews the latest issues of pediatric dentistry and related journals and critically evaluates the philosophies, clinical treatment, and applications to the practice of dentistry for the child patient. GR DEVEL

176A-B-C-D-E. Practice Teaching. (1.5-1.5-1.5-1.5-1.5) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Seminar 1 hour. Clinic 1.5 hours.
Morris and Staff
Student teaches junior and senior dental students in the pediatric dentistry clinics. In addition, the student will teach selected topics in a seminar format. GR DEVEL

177A-B-C-D-E. Hospital Dentistry. (3-3-3-3-3) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Seminar 1 hour. Clinic 6 hours.
Rothman and Staff
Course is specifically designed to provide the student with a working knowledge of dental rehabilitation procedures in a hospital operating room under general anesthesia and the associated hospital protocol. GR DEVEL

177.11A-B-C-D-E. Conscious Sedation. (1.5-1.5-1.5-1.5-1.5) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 1 hour. Clinic 1.5 hours.
Rothman and Staff
A multiplicity of medications, routes of administration, and monitoring techniques will be employed under the direct supervision of a faculty person. The student will administer the medications and monitor the patients before, during, and after the procedure. GR DEVEL

178A-B-C-D-E. Research Seminar. (2-2-2-2-2) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor. Lab 3 hours. Seminar 1 hour.
Rothman and Staff
Course will cover how to critically review research literature and do a term paper on a selected subject. It will discuss research methodologies and the development of a protocol and completion of a research project. GR DEVEL

179A-B-C-D-E. Advanced Clinical Ped Dent. (1-10) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Clinic 3-30 hours.
M. Morris and Staff
Course covers the clinical activities of the student and has the broad objective of providing a wide experience in all phases of contemporary pedodontic diagnosis and treatment. Students must demonstrate clinical competencies in care for the special child. GR DEVEL

179.12D-E. General Anesthesia Rotation–CHMC. (4-4) SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor. Clinic 30 hours.
Rothman and Staff
A practical rotation in the operating room of the Children's Hospital Medical Center of Northern California is provided under the supervision of senior staff anesthesiologist. GR DEVEL

180.01C. Advanced Ped Dent Seminar. (0.5) Sp. Prerequisite: Completion of third-year pediatric dentistry lecture series. Approval of the Dean. Lecture 0.5 hour.
Braham and Staff
Seminars on advanced pediatric dentistry involving anesthesiology, oncology and hematology, periodontology, diagnosis, practice management, future ideas, and ethics. Designed for students interested in advanced study and those considering pediatric dentistry as a specialty. Counseling is provided for postdoctoral education. GR DEVEL

180.02A-B-C-D-E. Pediatric Hospital Dentistry. (0-3) S, F, W, Sp. Prerequisite: Satisfactory progress in all previous pediatric dental courses. Seminar 3-5 hours per week in Hospital O.R.
Braham
Experience is provided in history-taking, admissions procedures, hospital dental protocol, laboratory tests, and chart documentation. Opportunity to work with the instructor in the hospital operating room, providing care for the handicapped and other refractory management cases, using a general anesthetic. GR DEVEL

Pediatrics

100. Medical Genetics. (2) F. Lecture 2 hours.
C. Epstein
Basic aspects of human genetics are presented in a context relevant to the diagnosis, treatment, and counseling of genetic disorders and congenital malformations. Emphasis is placed on the application of genetic knowledge to actual counseling problems. PEDIATRICS

110. Ped Core Clerkship–UC-SFGH-L-C. (1.5 per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences.
Dallman

Practical experience in the ward, newborn nursery, and outpatient clinics with emphasis on case assignments. Teaching and supervision by attending and resident staffs. Required seminars cover aspects of pediatrics, infectious diseases, and child psychiatry. PEDIATRICS

140.01A. Ambulatory Pediatrics–UC. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Pantell
Students gain experience in well child care and in dealing with children with acute problems. Emphasis is placed on health maintenance, preventive care, and anticipatory guidance. Conferences focus on general pediatric issues and a review of patients seen in the emergency room. PEDIATRICS

140.01B. Ambulatory Pediatrics–SFGH (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Brown, Coulter, O'Connor
Students evaluate and treat children with a variety of acute and chronic conditions. Patients with a high degree of acuity. There are morning conferences and ER case reviews. Supervision is provided by senior residents, chief resident, and faculty. PEDIATRICS

140.01D. Outpt Pediatric Clerkship–CHMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
Gerdsen
Students are assigned patients. They are supervised by attending and resident staff. They attend conferences when their patients are being discussed. They rotate through a variety of specialty clinics as well as the General Medical Clinic and the Emergency Room. PEDIATRICS

140.01E. Adv Inpt Pediatric Clkshp–CHMC.(1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Gerdsen
Students are assigned patients. They are supervised by attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences when their patients are being discussed, as well as all daily formal teaching conferences. PEDIATRICS

140.01F. Outpt Pediatric Clkshp–KP. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
Burnip
Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences for discussion of patients. PEDIATRICS

140.01G. Inpatient Pediatric Clkshp–K. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Shinefield
Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences for discussion of patients. PEDIATRICS

140.01H. Ambulatory Pediatrics–NRMC. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.
Van Meter
The course aims to provide an intensive "sub intern" experience in outpatient pediatrics at a teaching hospital with a busy primary care clinic and with active subspecialty clinics. PEDIATRICS

140.01I. Inpatient Pediatric Medicine–NRMC. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.
Van Meter
Students function as pediatric "sub interns" on the inpatient wards. They assume primary responsibility for patient management of 2-3 hospitalized children, under supervision of the senior resident and pediatric attending staff. Course includes general and subspecialty pediatric cases. PEDIATRICS

140.01J. Intensive Care Nursery–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Phibbs
Students gain experience in evaluation and management of sick pre-term and term infants. Supervision is provided, and it is expected that students will assume the role of primary physician in matters of clinical decision-making as well as diagnostic and therapeutic procedures. PEDIATRICS

140.01K. Neonatology–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Partridge, D. F. Wong
Students develop skills in assessment of newborns in the setting of a high-risk patient population. The experience involves care of patients, ranging from the healthy term newborn to the infant requiring intensive supportive care. PEDIATRICS

140.01L. Nursery Intensive Care Unit–NRMC. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.
Van Meter
The aim of this course is to offer a "sub intern" experience in managing the common problems encountered in the care of critically ill newborns. PEDIATRICS

140.01M. Pediatric Critical Care–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.
Soifer, Nelson, and Staff
Students follow selected patients in the Pediatric Intensive Care Unit and participate in patient presentations, management conferences, and teaching rounds. Emphasis is on cardiovascular and pulmonary physiology in management of critically ill pediatric patients. Students become familiar with relevant literature concerning problems of patients being followed. PEDIATRICS

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Rudolph
Clinical clerkship in off-campus hospitals approved by the chairperson of the department and the dean. PEDIATRICS

140.03. Outpatient Pediatrics–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
McCann
Experience caring for sick and well children with 27,000 patient visits/year. Preventive medicine and anticipatory guidance along with principles of growth and development. All activities closely supervised by either senior residents or faculty. Daily morning conferences, chart rounds, assigned readings. PEDIATRICS

140.04. Pediatric Cardiology. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Open to UCSF students only.
Silverman
Experience in clinical evaluation of children with cardiac abnormalities is emphasized. Daily ward rounds on pediatric cardiology patients, attendance at designated cardiac surgical procedures, catheterization, weekly catheterization conference, extensive reading assignments, and daily attendance in private office setting are included. PEDIATRICS

140.05. Pediatric Private Practice. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. Open to UCSF students only.
L. P. Smith
Working experience with a pediatrician on the clinical faculty as the pediatrician sees patients in the office and in the hospital. Student may select time in small group, large group, or subspecialty practice, or a combination of these. PEDIATRICS

140.06. Adolescent Medicine. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Gareis
Clinical clerkship in adolescent medicine with emphasis on outpatient clinical experience in a wide range of health problems of the adolescent. PEDIATRICS

140.07. Developmental Pediatrics in Fresno. (1.5 per week) W, Sp. Prerequisite: Pediatrics 110.
D. M. Snyder
Students learn to identify children with developmental disabilities and direct their remediation to allow for achievement of their greatest potential. Various settings are used in acquiring skills in developmental assessment. PEDIATRICS

140.08. Ambulatory Pediatrics. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
J. E. Anderson
Clinical experience in teaching hospital's busy pediatric clinic, working as member of health care team. Supervision from attending physicians with emphasis on developmental/behavioral approach to pediatric practice. Continuity of care is encouraged and opportunity exists to follow patients admitted to ward. PEDIATRICS

140.10. Pediatric Hematology–UC-SFGH-CHMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. Open to UCSF students only.
Koerper, Lubin, Mentzer
The student will participate in ward rounds, outpatient clinic, and laboratory evaluation of blood and bone marrow specimens. The pursuit of special interests in the clinic or laboratory is encouraged. PEDIATRICS

140.11. Cardiology–CHMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Higashino
Students participate in clinical experience including outpatient evaluation, instruction in the noninvasive methods of diagnosis, care of ward medical and surgical cardiac patients, cardiopulmonary laboratory, and cardiovascular conferences. Emphasis is on the physiological principles of diagnosis and management. PEDIATRICS

140.13. Endocrinology–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
Grumbach, S. L. Kaplan, F. Conte
Participation in the clinical and investigative aspects of endocrine and metabolic problems in children. Students spend time in the laboratory, on the wards, and in the clinics. PEDIATRICS

140.14. Juvenile Diabetes. (1.5 per week) Su. Prerequisite: Medicine 110 and Pediatrics 110.
Olney
Work under the direction of the instructor in Diabetic Camp, clinical and management aspects of diabetes. Students have an opportunity to participate in the operation of the camp program and treatment of many aspects of diabetes in children, adolescents, and young adults. PEDIATRICS

140.15. Oncology–UC. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
Ablin, K. Matthay, Zoger
Participation in management of patients with solid tumors and leukemia; attendance at pediatric tumor board, ward rounds, and outpatient clinic. Special emphasis on psychosocial problems; supervised reading and discussion with preceptor. PEDIATRICS

140.16. Pediatric Nephrology–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
D. E. Potter

Introduction to general nephrology with children having nutritional problems, ESRD, and chronic renal failure. Post-transplant and dialysis consultations, new cases from the nursery, and cases requiring TPN. Research projects may be arranged with instructors. PEDIATRICS

140.17. Genetics–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
C. Epstein, D. Cox
Evaluation and 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. PEDIATRICS

140.19. Advanced Inpatient Pediatrics–C. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
Giammona
Students participate in patient care in close association with the house staff and clinical fellows, both in wards caring for sick children and in Newborn Intensive Care Unit, and in rounds and conferences conducted by senior staff. PEDIATRICS

140.20. Advanced Outpatient Pediatrics-C. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
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 will be seen during visits to offices of senior pediatricians participating in the program. PEDIATRICS

140.21. Allergy–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
Frick
Participation in the activities of allergy-immunology trainees, including basic clinical immunology course, journal club, and seminars. PEDIATRICS

140.23. Neonatal Care–C. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
Lewis
Students participate in the care of infants in the intensive care nursery in close association with the house staff, fellows, and senior staff and in conferences conducted by senior staff. PEDIATRICS

140.24. Neonatal Care–MZ. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.
R. Ballard
Experience in normal newborn and intensive care nurseries, according to student's interests and skills. Student participates in the care of transport infants, and on night call. PEDIATRICS

140.25. Devel & Behavioral Peds–MZ. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Gorski and Staff
Practical orientation and training for assessment and intervention of motor, cognitive, and social development of normal and high-risk children. Course includes didactic seminars in medical ethics, child psychiatry, neurodevelopmental and behavioral pediatrics. PEDIATRICS

140.26. Comprehensive Pediatric Care–KP. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Schoen
Within the country's largest prepaid health care program, students will participate in office visits, urgent ambulatory care, health education, and inpatient care. They will work with staff and resident physicians, nurse practitioners and health educators. PEDIATRICS

140.27. Inpatient Pediatrics–KP. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Schoen
Students will perform histories and physical examinations on the pediatric ward under supervision of resident and attending physicians. They will attend resident conferences, see urgent clinic cases with resident and participate in outpatient clinic for discharged patients. PEDIATRICS

140.29. Inpatient Pediatrics–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, Pediatrics 110 and consent of instructor.
Northway
Students are assigned to a clinical team of house officers, faculty, and practitioners, and participate in the care of acutely ill hospitalized children. Students refine skills in history-taking, physical examinations, case write-ups and presentations, assist in special procedures, and attend daily conferences. PEDIATRICS

140.30. Gastroenterology & Nutrition. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Heyman, Thaler
Students participate with fellows and staff in the diagnosis and treatment of gastrointestinal and hepatic diseases, and nutritional deficiencies in infants and children. They present patients on wards and in the outpatient clinic, assist with procedures, and attend specialty conferences. PEDIATRICS

140.31. Inpatient Pediatric Clkshp–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Nilson
Opportunity to develop and perfect skills in history-taking, physical examination, case write-ups, presentations, and procedures. Supervised problem-oriented learning/teaching environment fosters basic diagnostic and management skills. Conferences, case work-ups and presentation, night call with resident, and assigned reading. PEDIATRICS

140.32. Infectious Diseases–FRESNO. (1.5) Su, F, W, Sp. Prerequisite: Pediatrics 110 and Medicine 110.
McCarty
Experience with common and unusual infections such as meningitis, osteomyelitis, pneumonia, perinatal infections, and infections in immunocompromised hosts. Emphasis on discussion of consult patients, close interaction with the microbiology laboratory, and assigned readings. Students will also review fundamentals of antimicrobial therapy. PEDIATRICS

140.33. Pediatric Immunology/Rheumatology. (1.5 per week) Su, F, W, Sp. Prerequisite: Pediatrics 110 and Medicine 110, and consent of instructor.
Wara, Cowan
Evaluation and care of children with primary immunodeficiency diseases and rheumatologic disorders. Emphasis on ontogeny of immune response as it relates to immunodeficiency, immunologic dysfunction involved in pathogenesis of the disorders, laboratory studies required for diagnosis, and care of children with chronic disease. PEDIATRICS

140.34. Medical Genetics. (1.5 per week) Su, F, W, Sp. Prerequisite: 4th-year standing.
Curry, Winter
Experience will be gained in medical genetics, including dysmorphology, biomedical genetics and prenatal diagnosis. Rotation will provide general exposure to all these areas and give a basic understanding of methods used to reach specific genetic diagnoses and exact prenatal detection course for future pregnancies. PEDIATRICS

140.35. Infectious Disease–UC & SFGH (1.5 per week) Su, F, W, Sp. Prerequisite: Pediatrics 110.
Grossman, Tureen, Wintrub
Students will learn principles of diagnosis and management of common infectious conditions, infectious complications in the immunocompromised host, and neonatal infections; will learn to properly interpret microbiologic data and use the microbiology laboratory. PEDIATRICS

140.36. Advanced Elective Adolescent Medicine–NRMC. (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.
Van Meter
The aim of this course is to provide an intensive "sub intern" experience in the practice of adolescent medicine. Experience will include exposure to sport-related injuries, sexually transmitted disease, birth control counseling, and emotional adjustment problems. PEDIATRICS

140.37. Clinical Clerkship in Adolescent Medicine. (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of basic clinical clerkships. Open to fourth-year medical students only.
Irwin, Shafer
Clinical rotation on outpatient/inpatient adolescent medical service. Clinical experience will include general adolescent clinic, adolescent gynecology clinic, and inpatient consultation on adolescent medical and psychiatric wards. PEDIATRICS

150.04. Research in Pediatrics–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.
Grumbach and Staff
Student research projects under guidance of faculty members. Programs must be approved by instructors. Students may initiate or continue research programs under supervision of faculty members. PEDIATRICS

160.01. Clinical Correlation in Peds–UC. (2) Su, F, W, Sp.
Rudolph
Students prepare case presentations weekly from patients on the pediatrics wards. Course correlates patients' problems with work in the required curriculum. Experience on the ward in the clinical setting. PEDIATRICS

170.01. Peds Devel Resource Overview. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
L. Crain
Weekly seminar and reading assignments correlated with observation of the spectrum of community and institutional services; diagnostic, preventive, and program services for individuals with developmental disabilities included. PEDIATRICS

170.02. Primary School Health Educ. (1-2) F, W, Sp. Prerequisite: Consent of instructor. Attendance of initial orientation by the curriculum department of the San Francisco Unified School District, scheduled at the first session of the quarter. Field work 3 hours plus class participation. Topic paper optional with consent of instructor for 2 units.
L. Crain, Ernster
Health professions students are oriented to working with Primary Grades Health Curriculum Program, and participate, under guidance of qualified instructors, in implementing PGHCP for K-3 grade children in local schools. PEDIATRICS

170.03. Health Professional and Nuclear War. (2) F. Seminar 2 hours.
Kiefer, Newman
Seminar exploring nuclear weapons effects, technology and strategy, and the implications of these for health professionals. PEDIATRICS

180. Human Biochemical Genetics. (1) F, W, Sp. Prerequisite: Pediatrics 110 or equivalent. Seminar 1 hour.
Packman
Selected topics in human biochemical genetics, emphasizing research and concepts of current interest. Course is directed toward physicians, postdoctoral fellows, medical students, and genetic counselors. A seminar format will be used, with directed reading and discussion. PEDIATRICS

180.01A-B-C-D. Adolescent Development. (2-2-2-2) § F, W, Sp, Su. Prerequisite: Consent of instructor. Seminar 2 hours.
Irwin
A four-quarter course covering the physiologic, psychologic, cognitive and social development of adolescence. Also included is material on sexuality, nutrition, family interaction, cultural differences, legal issues, school behavior, substance abuse and psychiatric problems, and common medical problems. PEDIATRICS

198. Supervised Study. (1-5) F, W, 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 chairperson of the department. PEDIATRICS

199. Laboratory Project. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.
Grumbach
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. PEDIATRICS

400. Staff Conference. (1.5) Su, F, W, Sp. Interns and residents.
UC **Rudolph**
Conferences include house staff preparation 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. PEDIATRICS

401. Pediatric-Roentgenology Conf. (1.5) Su, F, W, Sp. Interns and residents.
UC **Gooding**
Conferences include review and discussion of recent X-ray studies of pediatric cases in the wards and outpatient service. PEDIATRICS

402. Clinical Seminar. (1.5) Su, F, W, Sp.
UC **Rudolph**
Seminar includes review and discussion of selected cases of unusual interest, reports on special topics with review of recent literature, and clinicopathological conferences on pediatric cases. PEDIATRICS

420. Family Interviewing Seminar. (1) Su, F, W, Sp. Prerequisite: Graduate-level student in health sciences health care providers only. Consent of instructor. Seminar 2 hours.
Baum and Staff
Seminar topics include family systems, communication patterns, family interviewing, presenting a difficult diagnosis, psychosomatic illness, chronic illness, and common behavioral problems. Teaching methods include group discussion, role play, and video taping. Emphasis is placed on learning through experience. PEDIATRICS

421. Behavioral Research Seminar. (1) F, W, Sp. Prerequisite: Graduate-level student in health sciences. Consent of instructor. Seminar 2 hours alternate weeks.
Boyce and Staff
A survey of basic principles in epidemiologic research, with special emphasis on issues relevant to behavioral pediatrics. PEDIATRICS

422. Behavioral/Developmental Core Curriculum. (1.5) F, W, Sp. Prerequisite: Post-M.D. or graduate nursing students and consent of instructor. Seminar 6 hours.
P. Kaiser and Staff
Lectures and discussion of child development theory, clinically relevant research, and related common behavioral issues. Emphasis is on applicability of behavioral pediatrics in clinical practice. Includes screening, temperament, attachment, and hospitalization. Supervised experiences at daycare centers and schools. Reading assignments. PEDIATRICS

423. Child Development Literature Seminar. (1) F, W, Sp. Prerequisite: Graduate-level student in health sciences and consent of instructor. Seminar 1.5 hours alternate weeks.
Tanner and Staff
This seminar presents classic theoretical and current research-based formulations of child development. Assigned literature readings are essential to seminar participation. Material covering pregnancy through school age years is presented over two-year cycle. PEDIATRICS

424. Neurodevelopmental Assessment and Therapy. (1) W. Prerequisite: By instructor approval; pediatric residents and fellows in behavioral/developmental pediatrics. Lecture 1 hour. Lab 1 hour.
Tanner and Staff
Overview of theories and principles of neuromotor development and treatment modalities available for children with developmental disabilities. Includes assessing normal and abnormal sensory-motor development, neurodevelopmental therapy, sensory integration, pre-speech, and feeding therapy. Lecture, discussion, audiovisual aids, and patient demonstration. PEDIATRICS

450. Clinical Pediatrics–UC. (1.5 per week) Su, F, W, Sp. Interns and residents.
UC **Rudolph**
Residents, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis and treatment. In addition, the chief resident has certain administrative, teaching, and clinical responsibilities. PEDIATRICS

451. Clinical Pediatrics–SFGH (1.5 per week) Su, F, W, Sp. Residents.
M. Grossman
Residents, under supervision, are responsible for patient care in the wards, communicable disease section, and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis, and treatment. Emphasis is on diagnosis and management of infection trauma, and pediatric emergencies. PEDIATRICS

462. Clinical Primary Care. (1.5 per week) Su, F, W, Sp.
Rudolph
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 as well as related clinical services such as dermatology, otolaryngology. PEDIATRICS

463. Clinical Primary Care. (1.5 per week) Su, F, W, Sp.
Rudolph
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 as well as related clinical services such as dermatology, otolaryngology. PEDIATRICS

490. Clinical Pediatrics–SFGH (1.5 per week) Su, F, W, Sp.
M. Grossman
Interns rotate through newborn nursery, pediatric wards and clinic, communicable diseases ward, and 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. PEDIATRICS

495. Clinical Pediatrics. (1.5 per week) Su, F, W, Sp. Interns.
UC **Grumbach**
Interns, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis, and treatment. PEDIATRICS

Periodontology

129. Introduction to Clinical Periodontology. (1) Sp. Prerequisite: Oral Biology 128 A-B. Lecture/clinic 2 hours.
Taggart, Green
This course is an introduction to clinical periodontal procedures, including examination, diagnosis, and basic periodontal therapy. It will include lecture, laboratory, and clinical practice in treating patients with early periodontal diseases and preventative periodontics. STOMATOL

130. Periodontal Therapy. (1) Su. Prerequisite: Perio 129. Lecture 1 hour.
Taggart
Introduction to the diagnosis and treatment of periodontal diseases. Emphasis will be placed on examination of the patient, diagnosis and classification of diseases of the periodontium, and treatment planning. The rationale and techniques for treatment of gingivitis and early chronic periodontitis will be discussed. STOMATOL

131. Periodontal Therapy. (1) F. Prerequisite: Perio 130. Lecture 1 hour.
Taggart
Diagnosis and treatment of periodontal diseases, acute lesions, less common disease of the periodontium, and moderate to advanced periodontitis. Emphasis on diagnosis and treatment planning, considerations for specialty referral when appropriate. Rationale and techniques for treatment of moderate to advanced chronic periodontitis. STOMATOL

132. Periodontal Therapy. (2) W. Prerequisite: Perio 131. Lecture 2 hours.
Taggart
Surgical periodontics and rationale for periodontal therapy. Emphasis will be placed on the rationale for various surgical modalities of treatment for periodontal diseases. Discussion of controversial treatment programs and medicolegal aspects of periodontal therapy will be included. STOMATOL

139.Clinical Periodontal Therapy. (0-4) Su, F, W, Sp. Prerequisite: Perio 129. Clinic 3 hours. Seminar 1 hour.
Taggart
Treatment of a variety of periodontal diseases under the direct supervision of faculty. Small seminar and discussion groups will review diagnosis and treatment modalities. STOMATOL

149. Clinical Periodontal Therapy. (0-4) Su, F, W, Sp. Prerequisite: Perio 139. Clinic 12 hours.
Taggart
Treatment of a variety of periodontal diseases in a general practice environment under the direct supervision of faculty. STOMATOL

161. Periodontal Therapy. (1) W. Prerequisite: Perio 150A-B-C. Lecture 1 hour.
Taggart
Diagnosis and treatment of periodontal diseases, including acute lesions, less common disease of the periodontium, and moderate to advanced periodontitis. Emphasis will be placed on diagnosis and treatment planning, with considerations for specialty referral when appropriate. The rationale and techniques for treatment of moderate to advanced chronic periodontitis will be featured. STOMATOL

162. Periodontal Therapy. (1) W. Prerequisite: Perio 161. Lecture 1 hour.
Taggart
Surgical periodontics and rationale for periodontal therapy. Emphasis will be placed on the rationale for various surgical modalities of treatment for periodontal diseases. Discussion of controversial treatment programs and medicolegal aspects of periodontal therapy will be included. STOMATOL

170A-B-C. Histopathology of Periodontium. (2-2-2) F, W, Sp. Lecture 1 hour. Lab 3 hours.
Dienstein (F, W), **Ryder** (Sp)
Dynamics of inflammation and its role in the periodontal tissues. STOMATOL

177. Periodontal Surgery Seminar. (2) F, W, Sp. Prerequisite: D.D.S. degree and consent of instructor. Lecture 2 hours.
Raust

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. STOMATOL

180. Periodontics in General Practice. (1) W. Lecture 1 hour.
Nathan
Implementation of the skills and knowledge of periodontology in the private practice environment. STOMATOL

180.01. Advanced Perio Lit. (1) F. Prerequisite: Perio 130 and consent of instructor. Seminar 1 hour.
Abe
Study in depth, with literature review and seminar discussions of areas of periodontology having major clinical significance. STOMATOL

180.02. Advanced Perio Lit. (1) W. Prerequisite: Perio 131 and consent of instructor. Seminar 1 hour.
Abe
Study in depth, with literature review and seminar discussions of areas of periodontology having major clinical significance. STOMATOL

180.03. Advanced Perio Lit. (1) Sp. Prerequisite: Perio 132 and consent of instructor. Seminar 1 hour.
Abe
Study in depth, with literature review and seminar discussions of areas of periodontology having major clinical significance. STOMATOL

181. Perio Surgical Techniques. (1) F. Prerequisite: Perio 130 or 131 or 132 and consent of instructor. Lecture 1 hour.
Shibata
Surgical techniques are presented which may be used to treat lesions occurring in the hard and soft tissues of the periodontium. STOMATOL

189.01. Clinical Periodontics. (0-9) F, W, Sp. Prerequisite: Periodontology 109. Clinic variable.
Taggart
Continuation of clinical experience beyond the level of Periodontology 109. STOMATOL

199. Laboratory Project. (1-5) Su, F, W, Sp.
Armitage
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. STOMATOL

201A-B-C. Experimental Design. (0-3, 0-3, 0-3) § F, W, Sp. Lecture 0-2 hours. Lab 0-3 hours.
Shibata (F), **Chambers** (W), **Bhatnagar** (Sp)
Elements of experimental design, statistical inference, and methods of laboratory and clinical research. STOMATOL

202A-B. Molec & Biochem Basis of Disease. (2-2) § F, W. Prerequisite: Biochemistry 100A-B or equivalent introduction to biochemistry. Lecture 2 hours. Seminar 1 hour.
Bhatnagar
Course reintroduces students to the principles of biochemistry and molecular biology in relation to current concepts in the molecular basis of major disease entities including cancer, metabolic disorders, fibrotic and degenerative disorders of connective tissues, inflammation, and wound healing. STOMATOL

209. Literature Review. (2) § F, W, Sp. Seminar 2 hours.
Staff
Seminar designed to correlate basic sciences with problems in periodontology and evaluate concepts in the direction of research, clinical application, and teaching. Selected papers in the literature are reviewed and evaluated. Other instructors are invited to participate. STOMATOL

401. Examination & Treatment Planning. (1) F. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor.
Shibata
Lectures on examination and treatment planning. STOMATOL

401.01 Structure and Physiology of the Peridontium. (2) F. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours.
Ryder
Advanced study in the oral tissues, with emphasis on their histophysiological aspects. STOMATOL

401.02 Structure and Physiology of the Peridontium. (2) W. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours.
Ryder
Advanced study in the oral tissues, with emphasis on their histophysiological aspects. STOMATOL

401.03 Structure and Physiology of the Peridontium. (2) Sp. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours.
Ryder
Advanced study in the oral tissues, with emphasis on their histophysiological aspects. STOMATOL

404. Applied Anatomy. (1) Sp. Prerequisite: Enrollment in postgraduate specialty program. Lecture 1 hour.
Ryder
Course covers anatomy as it relates to anesthesia and periodontal surgery. STOMATOL

406.01. Hospital Anesthesiology. (6) S. Prerequisite: Consent of instructor. Seminar 1 hour. Clinic 16 hours.
Shibata
Practical course in operating room anesthesia. Instruction in hospital administration, physical and preanesthesia evaluation of the patient, monitoring of vital signs, administration of intravenous psychosedation, general anesthesia, and handling of resultant medical emergencies. Clinical instruction is supplemented by seminars. STOMATOL

406.02. Hospital Periodontics. (4) F. Prerequisite: Perio 419.01. Lecture 4 hours.
Shibata
Clinical periodontics integrated into the regular medical and rehabilitative activities of MZ. Course provides patients with quality dental care, appreciation for preventive dentistry, and concept of total health care. Students are exposed to various medical conditions. STOMATOL

406.03. Hospital Periodontics. (4) W. Prerequisite: Perio 419.02. Lecture 4 hours.
Shibata
Clinical periodontics integrated into the regular medical and rehabilitative activities of MZ. Course provides patients with quality dental care, appreciation for preventive dentistry, and concept of total health care. Students are exposed to various medical conditions. STOMATOL

406.04. Hospital Periodontics. (4) W. Prerequisite: Perio 419.03. Lecture 4 hours.
Shibata
Clinical periodontics integrated into the regular medical and rehabilitative activities of MZ. Course provides patients with quality dental care, appreciation for preventive dentistry, and concept of total health care. Students are exposed to various medical conditions. STOMATOL

413.01. Treatment Planning & Surgery. (1) F. Seminar 1 hour.
Shibata
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. STOMATOL

413.02. Treatment Planning & Surgery. (1) W. Seminar 1 hour.
Shibata
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. STOMATOL

413.03. Treatment Planning & Surgery. (1) Sp. Seminar 1 hour.
Shibata
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. STOMATOL

413.04. Treatment Planning & Surgery. (1) SS1. Seminar 1 hour.
Shibata
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. STOMATOL

416.01. Original Investigation. (1-5) F. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. Lab 3-15 hours.
Armitage
Original research under the supervision of a mentor. STOMATOL

416.02. Original Investigation. (1-5) W. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. Lab 3-15 hours.
Armitage
Original research under the supervision of a mentor. STOMATOL

416.03. Original Investigation. (1-5) Sp. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. Lab 3-15 hours.
Armitage
Original research under the supervision of a mentor. STOMATOL

419.01. Clinical Periodontics. (5) F. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.
Shibata
Clinical procedures in periodontology therapy. STOMATOL

419.02. Clinical Periodontics. (5) W. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.
Shibata
Clinical procedures in periodontology therapy. STOMATOL

419.03. Clinical Periodontics. (5) Sp. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.
Shibata
Clinical procedures in periodontology therapy. STOMATOL

419.04. Clinical Periodontics. (5) SS1. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.
Shibata
Clinical procedures in periodontology therapy. STOMATOL

423.01. Adv Treatment Planning & Surgery. (1) F. Seminar 1 hour.
Shibata
Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience. STOMATOL

423.02. Adv Treatment Planning & Surgery. (1) W. Seminar 1 hour.
Shibata
Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defend-

ing their treatment plan and therapeutic procedures based on relevant literature and clinical experience. STOMATOL

423.03. Adv Treatment Planning & Surgery. (1) Sp. Seminar 1 hour.
Shibata
Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience. STOMATOL

423.04. Adv Treatment Planning & Surgery. (1) SS1. Seminar 1 hour.
Shibata
Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience. STOMATOL

429.01. Periodontal Therapy. (6) Su. Prerequisite: Perio 419.01 or 419.02 or 419.03 or 419.04. Clinic 18 hours.
Shibata
Clinical procedures in periodontal therapy. This course is an enlargement on earlier clinical experience. STOMATOL

429.02. Periodontal Therapy. (6) F. Prerequisite: Enrollment in postgraduate periodontal therapy. Clinic 18 hours.
Shibata
Clinical procedures in periodontal therapy. STOMATOL

429.03. Periodontal Therapy. (6) F. Prerequisite: Perio 429.02. Clinic 18 hours.
Shibata
Advanced surgical techniques in management of periodontal lesions. STOMATOL

Pharmaceutical Chemistry

120. Principles of Pharm Chem. (3) § F. Prerequisite: Chemistry 113. Lecture 3 hours.
Ortiz de Montellano
A study of physicochemical and biological factors which contribute to drug action; in vivo and in vitro biotransformations of drugs and related organic compounds. PHARM CHEM

121. Principles of Pharmaceutical Chemistry. (2) W. Prerequisite: Pharmaceutical Chemistry 120 and concurrent enrollment in Pharmacology 121. Lecture 2 hours.
Kahl
A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on steroids, prostaglandins, peptide hormones, and drugs for metabolic disorders. PHARM CHEM

122. Autonomic & Cardiovasc Drugs. (3) Sp. Prerequisite: Pharmaceutical Chemistry 120. Lecture 3 hours.
C. C. Wang
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. PHARM CHEM

132. Drugs Acting on CNS. (3) F. Prerequisite: Pharmaceutical Chemistry 120. Lecture 3 hours.
Cashman
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. PHARM CHEM

134. Chemotherapeutic Drugs. (2) W. Prerequisite: Pharmaceutical Chemistry 120 and concurrent enrollment in Pharmacology 134. Lecture 2 hours.
Oppenheimer
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. PHARM CHEM

152. Radionuclides in Biol/Med/Pharm. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.
Peng
Discussion on radionuclides in frequent use in biology and medicine including radionuclides used as pharmaceuticals, with emphasis on dosage form design, quality control, clinical application, and other related aspects. PHARM CHEM

157. Bioanalytical Theory & Technique. (3) W. Lecture 2 hours. Lab 3 hours.
E. Lin
Analytical theory and techniques for determining drugs and metabolites in biological fluids. PHARM CHEM

162. Radioisotope Imaging. (1) § Sp. Prerequisite: Pharmaceutical Chemistry 152 or consent of instructor. Lecture 1 hour.
D. Price
This course will treat the theory and methodology in the application of radionuclides to organ imaging in nuclear medicine. PHARM CHEM

170. Group Studies. (1-4) § F, W, Sp. Prerequisite: Consent of instructor and adviser.
Agabian
Group studies of selected topics in pharmaceutical chemistry. PHARM CHEM

198. Supervised Study. (1-5) F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. PHARM CHEM

199. Laboratory Project. (1-5) F, W, Sp.
Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. PHARM CHEM

200A. Introduction to Biochemical Toxicology. (4) § Sp. Prerequisite: PC 203 or co-requisite. Lecture 4 hours.
Meehan
The metabolism and bioactivation of drugs, carcinogens, and other toxicants will be presented, and these examples will serve to illustrate how toxic substances alter and disrupt normal cellular processes at the molecular level. PHARM

201A. Basic Principles of Medicinal Chemistry. (3) § F. Lecture 3 hours.
Wang
Introduction to basic principles of medicinal chemistry, with focus on physiochemical aspects of drug-target interactions, structure and biology of drug receptors, drug metabolism-bioactivation, and pharmacokinetics and drug targeting. PHARM CHEM

201B. Medicinal Chemistry & Pharmacology of Major Drug Classes. (2) § W. Lecture 2 hours.
Sadee
A review of major drug classes with application of the basic principles of medicinal chemistry and pharmacology. PHARM CHEM

202A. Topics in Protein Structure. (2) § W. Prerequisite: Consent of instructor. Offered in alternate years (alternates with 202B). Offered 1990-91. Lecture 2 hours.
Kuntz, Cohen
Principles and recent advances in protein structure, including experimental and theoretical approaches. PHARM CHEM

202B. Topics in Nucleic Acid Structure. (2) § W. Prerequisite: Consent of instructor. Offered in alternate years (alternates with 202A). Not offered 1990-91. Lecture 2 hours.
Shafer
Principles and recent advances in nucleic acid structure, including experimental and theoretical approaches. PHARM CHEM

203. Drug Metabolism. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour. Literature project.
Sadee
Study of the in vivo and in vitro biotransformation of foreign compounds with particular emphasis on drugs. When possible, detailed chemical and biochemical mechanisms are considered. PHARM CHEM

204. Introduction to Computer Programming. (3) F. Prerequisite: Consent of Instructor. Lecture 3 hours.
Langridge, Ferrin
An introduction to computer programming using the C language and the UNIX operating system. During the course, students learn to write, test, and debug programs of increasing complexity. Emphasis is on the basic principles in writing well-structured and modular code. PHARM CHEM

205. Molecular Biochemistry. (3) § Sp. Lecture 3 hours.
Craik
The emphasis of the course will be on modern principles covering structural and functional aspects of nucleic acid and proteins; molecular biochemical methodologies that focus on topics of pharmaceutical interest; basic theories of molecular biology, plasmids, bacteriophage, nucleic acid and protein characterizations, site-directed mutagenesis, hybridomas and automated microchemical methods for protein and nucleic acid sequence determination. PHARM CHEM

206. Laboratory Rotation in Pharmaceutical Chemistry. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 3-15 hours.
Staff
A laboratory rotation course to familiarize new departmental graduate students with various approaches to research in the pharmaceutical sciences. PHARM CHEM

212A-B. Pharm Sci Computer Prog. (1, 2) § F, W. Prerequisite: PC 212A or equivalent is prerequisite to PC 212B. Lecture A, 1 hour; B, 2 hours. Lab A, 1 hour; B, 1 hour.
Upton
A course in computer programming using examples from the pharmaceutical and biomedical sciences. PHARM CHEM

213. Kinetics of Drug Absorp & Disposn. (3) § F. Prerequisite: Chemistry 115. Calculus background is recommended. Lecture 2 hours. Conference 2-3 hours.
Øie, Giacomini, Hoener
A basic study of the concentration-time course of drugs in the body, methods of pharmacokinetic analysis and modeling, and discussion of pharmacokinetic/physiologic interrelationships. Conference/workshop emphasizes problem-solving in pharmacokinetics. PHARM CHEM

214. Adv Kinetics of Absorp & Disposn. (3) § W. Prerequisite: Pharmaceutical Chemistry 213 and Biochemistry 202 or equivalents. Lecture 2 hours. Lab 3 hours.
Tozer, Benet
Advanced consideration of pharmacokinetics including multicompartment models, assessment of intrinsic absorption and disposition parameters, nonlinear kinetics, and correlation of pharmacological response with the concentration-time course of a drug. Conference involves problem-solving exercises. PHARM CHEM

216. Biomathematical Modeling. (2) § Sp. Prerequisite: Pharmaceutical Chemistry 212A, 212B or equivalent, or consent of instructor. Lecture 2 hours.
Siegel

Mathematical techniques relevant to research in pharmacokinetics, pharmacodynamics, and drug delivery. PHARM CHEM

217. Fundamentals of Targeted Drug Delivery. (2) Sp. Prerequisite: One quarter of physical chemistry, kinetics and pharmacology, or consent of instructor.
Hunt
The physical, chemical, biotechnological, and other techniques that are proposed to deliver active molecules to specific target sites in vivo are selectively explored in conjunction with toxological motivations for achieving targeted drug delivery. Feasibility and optimization are discussed. PHARM CHEM

219. Enzyme Mechanisms. (2-3) § F or Sp. Lecture 2-3 hours.
Santi, Kenyon
Selected topics on enzyme mechanisms. General survey of enzyme catalysis; general acid-base catalysis, propinquity effects, strain and conformational change. Covalent intermediates in enzyme catalysis. The role of cofactors in enzyme catalysis. Phosphate transfer reactions. PHARM CHEM

220. Research Conf in Pharmaceutics. (1) § F, W, Sp. Lecture 1 hour.
Benet
A program involving the presentation of core material in pharmaceutical chemistry in the pharmaceutics pathway. The presentations are made by graduate students and examination is by a series of cumulative examinations. PHARM CHEM

221. Research Conf in Pharm Chem. (1) § F, W, Sp. Prerequisite: Graduate standing in the Department of Pharmaceutical Chemistry. Lecture 1 hour.
Kenyon
A series of weekly research conferences in medicinal chemistry given by visiting lecturers, faculty, and advanced graduate students. PHARM CHEM

222. Physical Chemistry Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.
Kuntz and Staff
Topics of current research interest in physical and biophysical chemistry. PHARM CHEM

225A-B. Graduate Research Opportunities. (1-1) § F, W. Prerequisite: Graduate standing in the Department of Pharmaceutical Chemistry. Lecture 1 hour.
Peng
A series of weekly presentations of the research interests of the basic science faculty. The purpose is to acquaint new graduate students with the research in the Departments of Pharmacy and Pharmaceutical Chemistry. PHARM CHEM

230A. Spectroscopy. (3) § Sp. Prerequisite: Chemistry 162 or equivalent. Lecture 3 hours.
Kollman
The theory and application of molecular electronic and vibrational spectroscopy; optical rotatory dispersion and circular dichroism. PHARM CHEM

230B. Spectroscopy. (3) § F or W or Sp. Lecture 3 hours. Offered in alternate years. Not offered 1990-91.
T. James
Theory and application of nuclear magnetic resonance and electron-spin resonance. PHARM CHEM

230C. Spectroscopy. (2) § W. Lecture 3 hours. Lab 2 hours.
Basus
Laboratory work in nuclear magnetic resonance. PHARM CHEM

231. Nuclear Magnetic Resonance. (3-4) § W, Sp. Prerequisite: undergraduate physics or physical chemistry. Chemistry 262 is recommended. Lecture 3-4 hours.
T. James
Theory and application of nuclear magnetic resonance. Following a basic core of lectures, lecture modules may be selected covering high-resolution two-dimensional NMR, magnetic resonance imaging, and in vivo magnetic resonance spectroscopy. PHARM CHEM

235. Mass Spectrometry in Life Sci. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.
Burlingame
Elucidation of molecular structure, characterizations of mixtures, and quantitative measurements. Presentation of basic tools, concepts, and strategies in the complementary usage of currently available techniques in present biochemical and biomedical research. PHARM CHEM

236. Transport & Reaction Processes. (3) § Sp. Prerequisite: Chemistry 260. Lecture 3 hours.
Guy, Siegel
Basic principles applicable to transport and reaction processes in model membrane and biological systems. PHARM CHEM

237. Membrane Transport and Biophysics. (2-3) § F. Prerequisite: Pharm Chem 236, Chemistry 260. Lecture 2-3 hours.
Szoka, Guy
Biophysical consideration of membrane structure; passive and active transport mechanisms and implications for targeted and controlled drug delivery. PHARM CHEM

238. Chemistry and Physics of Polymeric Systems. (2-3) § W. Prerequisite: Pharm Chem 236, Chemistry 260. Lecture 2-3 hours.
Siegel
Chemistry and physics of polymers relevant to the design and function of programmable drug delivery systems. PHARM CHEM

240. Radiochemical Synthesis. (1-2) § F, W, Sp. Prerequisite: Consent of instructor. Lab 3-6 hours.
Peng
Theory and techniques related to the synthesis of isotopically labeled organic compounds. Course may be repeated for credit. PHARM CHEM

242. Radiotracer Methodology. (1) § W. Prerequisite: Pharmaceutical Chemistry 152 or 160, or consent of instructor. Lecture 1 hour.
Peng
Discussions on the theory and principles in the use of radionuclides as tracers in biological systems. Emphasis is on the design of experiments and data evaluation. PHARM CHEM

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

260. Computer Graphics. (3) § Sp. Prerequisite: Experience in programming and consent of instructor. Lecture 2 hours. Lab 3 hours. Offered in alternate years. Offered 1990-91.
Langridge, Ferrin
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. PHARM CHEM

266. Research Planning Conference. (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. PHARM CHEM

298. Thesis. (0) § F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the thesis for the master's degree. PHARM CHEM

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

Pharmacology

100A-B. Medical Pharmacology. (4-4) W, Sp. Prerequisite: Biochemistry 100A-B or equivalent; Physiology 120 and 125 or equivalent. Lecture 3 hours. Conference 2 hours.
Katzung
Systematic presentation of pharmacologic agents based on drug group classification. Major emphasis is on mechanism of action of clinically important agents. PHARMACOL

121. Pharmacology. (1) W. Prerequisite: Concurrent enrollment in Pharmaceutical Chemistry 121. Lecture 1 hour.
Burkhalter
Systematic survey of action and uses of drugs with emphasis on steroids, hormones, and drugs for metabolic disorders. PHARMACOL

125. Pharmacology & Toxicology. (4) Sp. Prerequisite: Biochemistry 120A-B and Physiology 120 and 125. Lecture 3 hours. Conference 2 hours.
Burkhalter
Systematic survey of action and uses of drugs acting on autonomic nervous and cardiovascular systems and the kidneys. PHARMACOL

126B-C. Dental Pharmacology.
(2, 4) § W, Sp. Prerequisite: Physiology 110. Lecture 2 hours W; 3 hours Sp. Lab 3 hours Sp.
Trevor
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, fate, excretion, and toxicity. Agents useful in dentistry are emphasized. PHARMACOL

130. Clinical Toxicology. (2) Sp. Prerequisite: Pharmacology 125 and 136. Lecture 2 hours.
Burkhalter
The occurrence, mode of action, recognition, and treatment of poisoning by environmental chemicals and therapeutic agents. PHARMACOL

134. Pharmacology. (2) W. Prerequisite: Concurrent enrollment in Pharmaceutical Chemistry 134. Lecture 2 hours.
Burkhalter
Systematic survey of action and uses of anti-infective and anti-neoplastic drugs. PHARMACOL

136. Pharmacology & Toxicology. (4) F. Prerequisite: Pharmacology 125. Lecture 3 hours. Conference 2 hours.
Burkhalter
Systematic survey of action and use of drugs acting on the central nervous system. PHARMACOL

150.01. Pharmacology Research. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture and lab to be arranged.
Staff
Students perform individual research in a field of their choice under the guidance and supervision of a member of the faculty. PHARMACOL

170. Group Studies. (1-4) F, W, Sp. Prerequisite: Consent of instructor.
Staff
Group studies of selected topics in pharmacology. PHARMACOL

193. Survey of Departmental Faculty Research. (1-3) F. Enrollment restricted to Pharmacology graduate students. Seminar 1-3 hours.
Trevor and Staff

An overview of Pharmacology faculty research interests presented in a seminar format to introduce first year graduate students to the various areas of ongoing investigation in the Department of Pharmacology. PHARMACOL

198. Supervised Study. (1-5) § F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. PHARMACOL

199. Laboratory Project. (1-5) § F, W, Sp.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. PHARMACOL

206A. Mechanisms of Drug Action. (3) § W. Prerequisite: Consent of instructor. Students must register for both Pharmacology 206A and 206B to receive full credit after completion of both quarters. Seminar 3 hours.
Bourne and Staff
Lecture/seminar dealing with fundamental aspects of interactions between chemical compounds and components of biological systems. Mechanisms of drug action at molecular, biochemical, and membrane levels are considered. PHARMACOL

206B. Mechanisms of Drug Action. (3) § Sp. Prerequisite: Pharmacology 206A. Seminar 3 hours.
Lansman
Second quarter of 2-quarter lecture/seminar dealing with fundamental aspects of interactions between chemical compounds and components of biological systems. Mechanisms of drug action at molecular, biochemical, and membrane levels are considered. PHARMACOL

208. Oxidative Drug Metabolism. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours.
Correia, Ortiz de Montellano
The biochemical, regulatory, and chemical aspects of mixed function oxygenases with particular emphasis on cytochrome P–450. PHARMACOL

220. Seminar. (0) § F, W, Sp.
Correia
Presentations by guests and staff on current research in pharmacology. PHARMACOL

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

298. Thesis. (0) § F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser.
Staff
For graduate students engaged in writing the thesis for the master's degree. PHARMACOL

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

300A-B-C. Teaching Practicum. (1-3, 1-3, 1-3) F, W, Sp. Prerequisite: Advancement to candidacy for the Ph.D. degree.
Staff
Opportunity is provided to participate in a formalized way in the teaching of pharmacology under the direction of the faculty. PHARMACOL

Pharmacy

111. Non-Prescription Products. (1) W. Conference 2 hours.
Yee
Evaluation and comparison of non-prescription medications and appliances. Discussion on their patterns of use in the community is included. Emphasis is on verbal communications. PHARMACY

112. Non-Prescription Products. (1) Sp. Prerequisite: Pharmacy 111. Conference 2 hours.
Yee
Continuation of Pharmacy 111. PHARMACY

114. Biopharmaceutics & Phys Pharmacy. (3) F. Prerequisite: Concurrent enrollment in Chemistry 115. Lecture 3 hours.
Hoener, Guy, Siegel
A study of the physical, chemical, and biological factors which interact and dominate the design of dosage forms as drug delivery systems, including an introduction to the analysis of clinical data. PHARMACY

115. Biopharmaceutics & Phys Pharmacy. (4) W. Prerequisite: Pharmacy 114 and concurrent enrollment in Chemistry 116. Lecture 3 hours. Lab 3 hours.
C. Hunt, Dill, R. Day, Bentz, Siegel, Blake
Continuation of Pharmacy 114 with the addition of laboratory preparation of basic drug delivery systems. PHARMACY

116. Biopharmaceutics & Phys Pharmacy. (4) Sp. Prerequisite: Pharmacy 115. Lecture 3 hours. Lab 3 hours.
Szoka, Siegel, Day, Guy, Blake
Continuation of Pharmacy 115. PHARMACY

123. Non-Prescription Drugs. (1) F. Prerequisite: Pharmacy 112. Conference 2 hours.
C. Yee
Continuation of Pharmacy 112. PHARMACY

127. Biopharmaceutics & Dispensing. (4) F. Prerequisite: Pharmacy 116 and Pharmacy Administration 112. Lecture 2 hours. Lab 6 hours.
R. Day, Benet, Siegel
Continuation of Pharmacy 116 with the addition of training in the professional and dispensing aspects of pharmacy. PHARMACY

128. Pharmacokinetics. (3.5) W. Prerequisite: Pharmacy 116. Lecture 3 hours. Conference 1-2 hours.
Hoener, Giacomini
Course covers the pharmacokinetic basis of variability in the therapeutic, pharmacologic, and toxicologic effects of drugs. PHARMACY

129. Pharmacokinetics. (3.5) Sp. Prerequisite: Pharmacy 128. Lecture 3 hours. Conference 1-2 hours.
Giacomini, Øie
Continuation of Pharmacy 128. PHARMACY

151. Community Health Education. (2) Sp. Lecture and discussion 2 hours. Participation in at least four community health education programs.
R. Gibson, Lem
Course is designed to train students for participation in community health programs dealing with drug abuse education and other drug-health related areas, such as poison prevention, venereal disease, and birth control. Course may be repeated for credit. PHARMACY

152. Special Topics in Pharmaceutics. (2) Sp. Prerequisite: Pharmacy 116 or concurrent enrollment. Lecture 2 hours.
Szoka
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. PHARMACY

153. Seminar Preparation Techniques. (1) F. Prerequisite: Consent of instructor. Seminar 1 hour. Conference 1 hour.
Hunt, Goyan
Preparation, presentation and evaluation of research seminars. PHARMACY

154. Percutaneous Absorption. (2) W. Prerequisite: First-year standing. Lecture 2 hours.
Wester, Guy
Course presents material dealing with the penetration of drugs and other chemicals across the skin. PHARMACY

155. External Drug Products. (3-4) W, Sp. Prerequisite: Pharmacy 127. Lecture 2-3 hours. Lab 3-6 hours.
Blake, Hoener
Discussion and laboratory exercises on the formulation of products for external use, including drugs and cosmetics. The course deals with the properties and ingredients of such products. PHARMACY

156. Parenteral Products. (3) F, W, Sp. Prerequisite: Pharmacy 127. Lecture 2 hours. Lab 3 hours.
Blake
Introduction to the formulation and technology of parenteral preparations. Laboratory includes participation in hospital activities in which parenterals are made and administered. PHARMACY

160. Selected Topics in Clinical Pharmacokinetics. (2) W. Prerequisite: Pharmacy 128 and 129. Lecture 2 hours.
Tozer
Selected topics in clinical pharmacokinetics. Depending on coverage in Pharmacy 128/129, topics may include: Pharmacodynamic and pharmacokinetic modelling, distribution kinetics population pharmacokinetics, turnover concepts, dialysis, drug interactions, and metabolic kinetics. The course is intended as an elective for third- and fourth-year students. PHARMACY

164. Veterinary Products. (3) Sp. Prerequisite: Microbiology 120, 127, Pathology 135, Pharmacology 136, and Pharmacy 116. Lecture 3 hours.
Enos
Course is designed to familiarize the student with common ailments of domestic animals and livestock, products used for the prevention and treatment of such diseases, the interrelationship of pharmacist, veterinarian, and animal owner, and legal limitations on veterinary product dispensing. PHARMACY

165. Pharmaceutical Technology. (3) F. Prerequisite: Pharmacy 116. Lecture 1 hour. Lab 6 hours.
Blake, Gibson
An introduction to the technology of liquid and semi-solid pharmaceuticals. Special emphasis is given to the problems encountered and the materials used in pharmaceutical manufacturing. PHARMACY

166. Pharmaceutical Technology. (3) W. Prerequisite: Pharmacy 165. Lecture 1 hour. Lab 6 hours.
Blake, Gibson
An introduction to the technology of solid dosage forms, especially tablets and capsules. Emphasis is placed on problems encountered in preparation of this type of medication. PHARMACY

167. Pharmaceutical Technology. (3) Sp. Prerequisite: Pharmacy 166. Lecture 1 hour. Lab 6 hours.
Blake, Gibson
An advanced study of the relationship of the art and science of pharmaceutical technology to solid dosage forms. PHARMACY

168. Clinical Pharmacokinetics–UC. (2) F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor. Reports and conferences 6 hours. Enrollment limited.
Tozer, Winter, Upton, Salazar
Discussion and review of the literature in the clinical application of pharmacokinetic principles in drug therapy. PHARMACY

168.02. Clinical Pharmacokinetics–UCI. (2) F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor. Reports and seminar 3 hours. Enrollment limited.
Shimomura
Discussion and review of the literature on the clinical application of pharmacokinetic principles in drug therapy. PHARMACY

170. Group Studies. (1-4) F, W, Sp. Prerequisite: Consent of instructor.
Staff
Group studies of selected topics in pharmacy. PHARMACY

170.05. Clinical Drug Investigations. (2) W, Sp. Prerequisite: Introductory statistics recommended. Lecture 2 hours.
Williams, Wester, Schwartz
A ten-week course that will discuss methods for generating data about drug risk and efficacy in clinical investigations, with emphasis on the randomized clinical trial. Statistical methods used in modern clinical trials will be discussed. PHARMACY

170.06. Molec & Cell Biology in Drug Devel. (2) Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
Szoka
Introduction to the role of cellular and molecular biology in developing new drugs, hormones, or therapeutic agents. PHARMACY

170.07. Communication Skills. (1.5) Sp. Prerequisite: First-year standing. Lab 2 hours. Seminar 1 hour. Enrollment limited.
Lem
Aspects of communication which focus on skills pertinent to contemporary pharmacy settings. Discussion of principles of communication and practice of specific techniques in simulated practice situations. PHARMACY

198. Supervised Study. (1-5) F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. PHARMACY

199. Laboratory Project. (1-5) F, W, Sp.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. PHARMACY

Pharmacy Administration

111. Pharmacy Laws. (2) W. 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 relationship and responsibility of the practitioner to the patient. PHARMACY

112. Pharmacy Laws. (2) Sp. 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 some administrative work. PHARMACY

150. Marketing. (4) W. Lecture 4 hours.
Lucaccini
An analysis of the marketing functions that facilitate the flow of pharmaceutical products from production to consumption, and of the decision-making processes of marketing institutions. Emphasis is given to the environmental factors affecting marketing decisions. PHARMACY

154. Community Pharmacy Management. (4) Sp. Prerequisite: Basic economics or consent of instructor. Lecture 4 hours.
Lucaccini
Principles of management, specially directed toward developing familiarity with current problems peculiar to community pharmacy operation. Emphasis is given to elements in locating, organizing, operating, and adapting a pharmacy. PHARMACY

155. Accounting. (3) F. Lecture 1 hour. Discussion 2 hours.
Lucaccini
Consideration of the fundamental concepts of accounting and its applied uses, with special emphasis on the accounting requirements of the community pharmacy. Problem cases and demonstrations are presented. PHARMACY

160. Hlth Prof Family & Business Law. (2) Sp. Lecture 2 hours.
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 pharmacists may expect their practice to be affected by these laws, and some practical preventive legal techniques. PHARMACY

170. Group Studies. (1-4) F, W, Sp. Prerequisite: Consent of instructor.
Staff
Group studies of selected topics in pharmacy administration. PHARMACY

180A-B-C. Legal Problems in Health Care. (2-2-2) F, W, Sp. Prerequisite: Third-year standing and consent of instructor.
J. R. Nielsen
Selected problems with directed readings and library research on current legal (statutory and case law) issues affecting the delivery of pharmacy services. Discussion and paper. PHARMACY

198. Supervised Study. (1-5) F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. PHARMACY

Physical Therapy

104B. Physical Therapy Procedures. (5) F. Prerequisite: Completion of course work in summer term in the Physical Therapy Curriculum. Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 2 hours. Lab 8 hours.
Richards, Byl
Second course in a series of four courses in physical therapy procedures. Assessment, goal setting, treatment, evaluation and problem solving of musculoskeletal pathologies. A library review of the literature is also required in preparation for the development of a research proposal. PHYS THER

104C. Physical Therapy Procedures. (5) W. Prerequisite: Completion of course work in summer term and fall quarter. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 2 hours. Lab 8 hours.
Radtka, Chape, Byl
Continuation of Physical Therapy Procedures series. Basic neurophysiological and neuroanatomical principles of normal and pathological motor function presented. Various physical therapeutic concepts of assessment, goal setting, treatment planning, treatment, evaluation, and problem solving presented for the patient with neurological dysfunction. Patient demonstrations included; field work coordinated through PT 104A. PHYS THER

104D. Physical Therapy Procedures. (3) Sp. Prerequisite: Completion of course work in summer term, fall and winter quarters. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 2 hours. Lab 4 hours.
Sadowsky, Richards
Continuation of Physical Therapy Procedures series. Physical therapy approach to assessment and treatment of pediatric conditions. Theory, assessment, treatment, physiological and functional ramifications of amputations, prosthetics, and orthotics. Patient evaluation and treatment of dysfunction of the cardiopulmonary, vascular, and integumentary systems. Patient demonstrations; practical applications in field work in PT 410A. PHYS THER

105. Physical Med & Rehabilitation. (3) W. Prerequisite: Completion of course work in summer term. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 3 hours.
Berrol
Course presents the philosophy of rehabilitation and medical management of chronic diseases and the multiple handicapped person. Particular emphasis is on brain damage, spinal cord injuries and cerebrovascular accidents. PHYS THER

106D. Specialty Medical Management of Disease: Internal Medicine. (3) W. Prerequisite: Completion of course work in fall quarter. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 3 hours.
Roost
Course presents the diagnostic and medical concerns that guide the internist in decision making. Outlining the contraindications, precautions, and prognosis helps guide the physical therapist in designing management programs for patients with primary or secondary internal medical problems. The health care team and team relationships are also presented. PHYS THER

106E. Specialty Medical Management of Disease: Psychiatry. (2) Sp. Prerequisite: Completion of course work in fall quarter. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 2 hours.
Byl
Course presents the psycho-social diagnostic and management concerns of patients with medical problems, those with common emotional and social problems, and those challenged with adjustment to physical disability. The physical therapist learns techniques of history taking and counseling appropriate to physical therapeutic management strategies. PHYS THER

108. Basic Medical Procedures. (2) Sp. Prerequisite: Completion of course work in summer term, fall and winter quarters. Lecture 1 hour. Lab 2 hours.
Simpson
Presentation of basic procedures for total and emergency care of the patient. Emphasis on interpretations of vital signs, temporary emergency intervention, sterile techniques, wheelchair prescription, burn evaluation and treatment, as well as communication in various situations. PHYS THER

109B. PT Practice and Administration. (2) F. Prerequisite: completion of coursework in summer session 3. Open only to students enrolled in the Curriculum, or by consent of program director. Seminar 2 hours.
Byl
This series of seminars builds a foundation of knowledge in health care administration, including personnel management, budgeting, financial planning, third-party payors, Medicare, MediCal, and trends in physical therapy education and practice. PHYS THER

110. Orthopedics: Diagnos & Treatment. (2) F. Prerequisite: Completion of PT 200, PT 201, PT 202 and concurrent enrollment in Pathology 135.01 Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 2 hours.
Hoaglund
Course presents the diagnostic, medical, and surgical principles and techniques which guide decision making and management by the orthopedic surgeon. Contraindications, precautions, and prognosis are discussed to guide the decision making of the physical therapist. PHYS THER

111. Neurology: Diagnosis & Treatment. (2) W. Prerequisite: completion of PT 200, Anatomy 103.01, and Pathology 135.01. Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 2 hours.
Lowenstein
Course presents the diagnostic and medical principles which guide decision making and clinical manage-

ment by the neurologist. Contraindications, precautions, and diagnosis of the different neurological diseases are discussed to guide decision making by the physical therapist. PHYS THER

112. Pediatrics: Diagnosis & Treatment. (1) Sp. Prerequisite: Upper division coursework in human development and Pathology 135.01. Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 1 hour.
Kaufman
Course presents the diagnostic, developmental, behavioral, and medical principles of clinical management for normal youngsters and those with acute/chronic disease. Contraindications, precautions, and prognosis are discussed as they impact physical therapy management. PHYS THER

198. Supervised Study. (1-5) Su, F, W, Sp. § Prerequisite: Enrollment in the Curriculum and approval by instructor. Open only to students enrolled in the Curriculum in Physical Therapy.
Staff
This course is designed to permit physical therapy students to do independent clinical research under the supervision of faculty. This course can be repeated as approved by faculty. It cannot be used as a substitute for core curriculum coursework. PHYS THER

199. Laboratory Project. (1-5) Su, F, W, Sp. § Prerequisite: Enrollment in UCSF/SFSU Program in Physical Therapy and approval of student faculty adviser and project faculty. Open only to students enrolled in the Curriculum in Physical Therapy, or by consent of program director.
Staff
Student conducts a laboratory research project under direction of a faculty member with the approval of the chairperson of the department. PHYS THER

200. Neuromusculoskeletal Anatomy. (6) Su. § Prerequisite: Upper division human anatomy and human physiology, or by consent of instructor. Open only to students enrolled in the Curriculum. Lecture 3 hours. Lab 9 hours.
McKenzie
Dissection and functional anatomy of the neuromusculoskeletal system from a developmental and biomechanical perspective, with vascular and lymphtic systems related in a 3-dimensional perspective. Principles and relationships reinforced through lecture, dissection laboratories, studies of presections, and weekly integrative clinical seminars. PHYS THER

201. Kinesiology & PT Assessment. (3) Su. § Prerequisite: Completion of prerequisite coursework in kinesiology, exercise physiology, anatomy, and physiology. Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 2 hours. Lab 4 hours.
Richards
Application of surface anatomy, structural and biomechanical principles to normal trunk and extremity motion within the physical therapy assessment. Principles of measurement, instrumentation, administration, and interpretation of standardized and clinical evaluation techniques reviewed in a lecture and lab setting. PHYS THER

202. Therapeutic Exer. and Modalities. (2) Su. § Prerequisite: Completion of prerequisite coursework in exercise physiology and human physiology. Open only to students enrolled in the Curriculum or by consent of program director. Lecture 1 hour. Lab 3 hours.
Richards
In lecture and laboratory setting, physiological, theoretical, and administrative principles are applied to the application of therapeutic modalities and the design and implementation of therapeutic exercise programs to prevent disability, maintain positive health, and restore function. PHYS THER

203. Advanced PT Practice & Theory I. (4) F. § Prerequisite: PT 701 and PT 702 or their equivalent and concurrent enrollment in the Kaiser Orthopedic Physical Therapy and Clinical Residency Program. Open only to students enrolled as a graduate student at UCSF or SFSU, or by consent of program director. Lecture 2 hours. Lab 6 hours.
Staff
This course includes intensive, advanced analysis of the Australian manual therapy theory, subjective and objective assessment techniques, as well as treatment techniques for the cervical, thoracic, and lumbar spine and the shoulder and hip joint. PHYS THER

204. Advanced PT Practice & Theory II. (5) W. § Prerequisite: PT 203 and concurrent enrollment in the Kaiser Orthopedic Physical Therapy and Clinical Residency Program. Open only to students enrolled as a graduate student at UCSF or SFSU, or by consent of program director. Lecture 3 hours. Lab 6 hours.
Staff
A continuation of PT 203 and includes prioritizing patient complaints, progressing treatment at optimal rates, discharge planning, home exercise programs, ergonomic analysis, function assessment and advanced treatment techniques for the neck, thoracic, lumbar spine, foot/ankle, wrist/hand, shoulder, sacroiliac, and lower extremity joints. PHYS THER

205. Functional Anatomy Review. (1.5) Su. Prerequisite: PT 200 or equivalent. Open only to students enrolled in the graduate program in physical therapy. Lecture 1 hour. Lab 1.5 hours.
McKenzie
This course is designed for physical therapists. Using prosected (and/or dissected) cadavers, the student is expected to relate the structures to clinical kinesiology, biomechanics, and the pathological state. Students are expected to critically review research in applied anatomy. PHYS THER

206. PT Diagnosis of Phys Dysfunction. (2) Su. § Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program or by consent of program director. Seminar 2 hours.
Byl and Staff
Using clinical case examples, this seminar focuses on history-taking, clinical assessment, clinical measurement, and signs and symptoms as they apply to making a physical diagnosis and appropriately classifying problems of physical dysfunction as a foundation for clinical problem solving and treatment. PHYS THER

210. Pharmacology & Radiology for PTs. (2) Su. § Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program or by consent of program director. Lecture 2 hours.
Byl and Staff
Survey course of pharmacology and radiology of common psychological, social, and neuromusculoskeletal disability. Pharmacological topics include principles, indications, adverse reactions. Radiological topics include principles, indications, advantages and disadvantages of appropriate radiological techniques for assessing skeletal and soft tissue lesions. PHYS THER

220. New Dimensions in PT. (2) Su, F, W, Sp. § Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program or by consent of faculty adviser or instructor. Seminar 2 hours.
Radtka and Staff
Topics to be specified in Class Schedule. Selected topics reflecting developing directions in physical therapy (e.g., pain control, rehabilitation engineering, mobilization, neuroplasticity, premature high-risk infants, TMJ problems, craniosacral therapy). May be repeated for credit when topics vary. PHYS THER

250. Research Sem in PT. (1-8) F. § Prerequisite: Completion of PT research seminars through PT 253. Enrolled in UCSF/SFSU Physical Therapy Program or by consent of program director.
Sadowsky
Problem solving, designs, methodologies, data analysis procedures for specific topics in basic and clinical physical therapy research. Implementation of one facet of an ongoing project, under guidance of the investigator. PHYS THER

251. Research Design and Methodology. (2) Su. § Prerequisite: Open only to students enrolled in the Curriculum or by consent of program director. Lecture 2 hours.
Byl
Logic of inquiry, principles of research design, and methodologies appropriate to scholarly activity in physical therapy. Includes review and critical appraisal of research designs used in physical therapy and practical problem solving; foundation course for developing a research project. PHYS THER

252. Research Sem: Critique of PT Lit. (1) W. § Prerequisite: Completion of a course in statistics. Open only to students enrolled in the Curriculum, or by consent of program director. Seminar 3 hours.
Byl
The first seminar of a research series focusing on problems of research in physical therapy, practical statistics, writing abstracts and critiques of research, literature review, including submission of a literature review on the student's proposed research topic. PHYS THER

253. Research Sem: Proposal Critique. (1) Sp. § Prerequisite: grade *B* or better in PT 250. Open only to students enrolled in the Curriculum or by consent of program director. Seminar 3 hours.
Byl
Converting the research question to a research hypothesis, and proposal writing including preparation of a proposal for a research project.. PHYS THER

254. Research Sem: Data Analysis. (1) Su. § Prerequisite: Completion of PT research seminars 730, 252 and 253. Enrolled in UCSF/SFSU Physical Therapy Program or by consent of program director. Seminar 1 hour.
Byl
This is the last seminar in the research series, and includes data analysis, data interpretation, problem solving, manuscript preparation, and presentation of results to class and other professionals. PHYS THER

410. Clinical Clerkship. (2) W. Prerequisite: Completion of academic coursework with overall *B* average. Open only to students enrolled in the Curriculum, or by consent of program director. Clinic 1 day/week.
Radtka
Students observe and assist the physical therapy clinician in the provision of assessment, evaluation, and physical therapy treatment services in one practice setting, one day a week for 11 weeks. PHYS THER

411. Clinical Clerkship. (2) Sp. Prerequisite: Completion of academic coursework with overall *B* average. Open only to students enrolled in the Curriculum, or by consent of program director. Clinic 1 day/week.
Radtka
Students develop their physical therapy assessment skills and integrate their didactic information with patient treatment by working closely with a clinical preceptor in the clinical setting to evaluate patients under supervision and directly observe staff provide physical therapy treatment. PHYS THER

412. Clinical Clerkship. (9) Su. Prerequisite: PT 410 and PT 411. Open only to students enrolled in the Curriculum, or by consent of program director. 40 hours/week, 5 days/week for 6 weeks.
Radtka
Students provide assessment, evaluation, and physical therapy treatment under the direct supervision of a physical therapist. Students must demonstrate satisfactory completion of this clerkship before progressing to the next clerkship. PHYS THER

413. Clinical Clerkship. (9) Su. Prerequisite: PT 412. Open only to students enrolled in the Curriculum, or by consent of program director. 40 hours/week, 5 days/week for 6 weeks.
Radtka

Students provide patient care under supervision in a clinical facility affiliated with UCSF. Students must satisfactorily complete this clerkship prior to taking PT 414. PHYS THER

415. Clinical Clerkship. (0) W. Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program and satisfactory completion of PT 412 and 413.
Radtka
Students provide physical therapy patient care for 32 hours/week for 11 weeks under the guidance and supervision of a clinical preceptor in one or two clinical facilities that differ from the type of setting in PT 412 and 413. PHYS THER

418. Advanced Clinical Clerkship. (0) Su, F, W, Sp. Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program.
Radtka
This advanced clinical clerkship is specifically arranged to enable the student to develop advanced clinical skills under the supervision of a clinical preceptor in one clinical setting. Setting and emphasis will vary. PHYS THER

Physiology

100. Organ System Physiology. (6) W. Prerequisite: Anatomy 100 and 102 and concurrent enrollment in Biochemistry 100A-B, or by consent of instructor. Lecture 4 hours. Lab 4 hours. Conference 2 hours.
Dallman
Normal function of the cardiovascular, respiratory, and renal systems and the metabolic functions of the body as a whole are studied in lectures, conferences, laboratory exercises, demonstrations, and clinical illustrations. PHYSIOLOGY

101. Endocrinology & Gastroenterology. (5) Sp. Prerequisite: Anatomy 100, Biochemistry 100A-B, Physiology 100, or consent of instructor. Lecture 1 hour. Conference 4 hours.
Lingappa
Within the framework of endocrine and gastrointestinal physiology, the class will strive to teach the information necessary to achieve an understanding of key physiologic principles. PHYSIOLOGY

110. Integrative & Nutritive Systems. (6) Sp. Prerequisite: College-level biology, physics, and chemistry, or consent of instructor. Lecture 4 hours. Lab 1 hour. Conference 1 hour.
A. Miller
To provide understanding of the mechanisms and processes in various organ systems; provide necessary background for learning about human disease and its treatment; enhance understanding of the function of organs and cells; provide knowledge for realization that oral functions and disease involve exact same processes as other human functions and disease; help prepare skills necessary to understand and evaluate clinical literature. PHYSIOLOGY

120. Mammalian Physiology. (2.5) W. Prerequisite: Physiology 125 required for students in School of Pharmacy; may be taken separately by graduate students with consent of instructor only. Lecture 2 hours. Conference 0.5 hour.
Ganong and Staff
Study of the integrative systems of the mammalian organism, particularly the gastrointestinal and endocrine systems. PHYSIOLOGY

120.01. Mammalian Physiology. (2.5) W. Prerequisite: Physiology 125.01 required for students in Curriculum in Physical Therapy. Open only to students enrolled in the Curriculum in Physical Therapy; or by consent of instructor. Lecture 2 hours. Conference 1 hour.
Ganong
Study of the integrative systems of the mammalian organism, particularly the gastrointestinal and endocrine systems. PHYSIOLOGY

125. Mammalian Physiology. (6) F. Prerequisite: Consent of instructor. Lecture 4 hours. Lab 4 hours. Conference 2 hours.
Mines
Physiology of the human cardiovascular, respiratory and renal systems is stressed, with special attention to developing problem solving skills using the material. PHYSIOLOGY

125.01. Mammalian Physiology. (5) F. Prerequisite: Completion of course work in summer term. Open only to students enrolled in the Curriculum in Physical Therapy; or by consent of instructor. Lecture 4 hours. Conference 2 hours.
Mines
Physiology of the human cardiovascular, respiratory and renal systems is stressed, with special attention to developing problem solving skills using the material. PHYSIOLOGY

126. Neuroscience for Pharmacy. (4) W. Prerequisite: Physiology 125 or consent of instructor. Lecture 3 hours. Lab 1.5 hours. Conference 1 hour.
Korenbrot and Staff
Course is designed primarily for students in the School of Pharmacy. The course will present an integrated approach to the physiological operations of the nervous system and the morphological or anatomical substrates in which these occur. PHYSIOLOGY

150.01. Research in Physiology. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture and lab to be arranged.
Staff
Individual research in endocrinology, respiratory physiology, neurophysiology, cardiovascular physiology, cell physiology, or other areas offered by individual staff members. PHYSIOLOGY

170.01. Medical Scholars Program Workshops. (1) W. Prerequisite: Consent of instructor (this course is offered as part of the UCSF Medical Scholars Program, which endeavors to encourage students to pursue careers in academic medicine).
Dallman.

Workshops in organ system physiology, offered concurrently to the first-year course, which will present challenging material in the form of problem sets which students will solve in groups. Material geared toward high-achieving students will augment basic coursework with clinical and basic science information. PHYSIOLOGY

198. Supervised Study. (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 chairperson of the department. PHYSIOLOGY

199. Laboratory Project. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. PHYSIOLOGY

201. Advanced Integrative Physiology. (4) Sp. § Prerequisite: Physiology 100 or equivalent. Lecture 2 hours.
Reid and Staff
The purpose of this course is to review in depth selected topics in regulatory and integrative physiology. The emphasis will be on cardiovascular, renal, and respiratory physiology, but other systems will also be covered. PHYSIOLOGY

204. Topics in Physiology. (2-3) § Sp. Prerequisite: A minimum of six units of introductory physiology. Seminar 2 hours. Optional term paper for additional unit.
Rothman
This seminar discusses selected topics in cellular and integrative physiology. Readings are drawn from primary and secondary sources. PHYSIOLOGY

221. Molecular & Cellular Approaches to Cardiovascular Disease. (1.5) § W, Sp. Prerequisite: Physiology 100 or equivalent. Lecture 1 hour. Conference 0.5 hour.
Coughlin, Williams
Lectures will emphasize approaches to understanding mechanisms of disease at the molecular level. Focus will be on vascular biology and pathophysiology, and on molecular targets for therapeutics. PHYSIOLOGY

224. Molec Biol of Lipid Metabolism. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Offered in alternate years. Offered 1990-91.
Taylor, Fielding
The structure and regulation of the genes and proteins that control lipid metabolism, including plasma apolipoproteins, receptors, and enzymes. Molecular and cellular biology of mammalian lipid metabolism examined with respect to regulation of various proteins involved in transport, binding, and utilization of lipids. PHYSIOLOGY

250. Research. (1-8) § F, W, Sp. Prerequisite: Consent of instructor. Lab variable.
Staff
PHYSIOLOGY

298. Thesis. (0) § Su, 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. PHYSIOLOGY

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

300. Teaching Practicum. (0) § F, W, Sp. Prerequisite: Previous training in physiology and consent of instructor. Lecture and lab variable.
Staff
Practice in teaching physiology under faculty supervision. Students supervise laboratory work, conduct conferences, deliver lectures, and assist in preparing and grading examinations. Responsibilities are assigned according to the individual's stage of development. PHYSIOLOGY

301. Scientific Writing. (0) § Su, W. Prerequisite: Consent of instructor. Seminar 4 hours.
Coleridge, Zeiger
A seminar designed to teach postdoctoral fellows and graduate students how to best put into words, tables and figures work done in the laboratory, and how to do so clearly, simply, precisely, convincingly, and briefly, so that others may understand. PHYSIOLOGY

302. Teaching Techniques. (0) § F, W. Prerequisite: Consent of instructor. Lecture 1.5 hours. Enrollment limited.
Staub
A course in teaching techniques. Students present short lectures, and videotapes of these presentations are analyzed by self- and group criticism. PHYSIOLOGY

Preventive Dentistry and Community Health

199. Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor.
Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. DENT PUB HLTH

Psychiatry

First-Year Coordinated Instruction—This course provides a first opportunity to interview medical patients in small group settings, guided by experienced clinicians. Useful medical information is gathered in a comfortable, professional interchange, and one's identity as a physician also begins emerging in the process.

PGY I Courses—The Department of Psychiatry is currently developing new courses for PGY I residents. Please refer to the quarterly Schedule of Classes for a listing of those courses in the 400 series.

100A. Psychological Basis of Medicine. (2) F. Lecture 2 hours. Seminar 1 hour.
Horowitz, Marmar, Kaltreider
Introduction to the basic psychological principles underlying response to the stress of illness and its treatment, with emphasis on mental mechanisms, development, death and dying, and character style. PSYCHIATRY

100B. Illness Behavior. (1) W. Seminar 2 hours.
Brodsky, F. Cohen
Introduction to psychological principles influencing health behaviors and the physician-patient relationship. Presentation of the social and cultural factors that affect patients' health and illness behavior when well, when they fear illness, when ill, during rehabilitation and after recovery. PSYCHIATRY

110. Psychiatry Core Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C, Psychiatry 100A, 100B and 131A-B. Open to UCSF students only.
Kaltreider
Six-week assignment to a psychiatric service at UC, SFGH, VAMC, MZ, L, or VAF. Students, under supervision, are responsible for patient evaluation and participation in treatment planning for inpatients, outpatients, and consultation/liaison. They attend seminars related to clinical work, and make field visits to other types of psychiatric facilities. PSYCHIATRY

131A-B. Intro to Clinical Psychiatry. (2-2) W, Sp. Lecture 1 hour. Seminar 2-3 hours.
Brizendine, Marmar
Introduction to clinical psychiatry with particular emphasis upon knowledge important in general medical practice. Course format includes lectures, small group teaching, interviewing patients, syllabus reading, and the use of clinical videotapes and film. PSYCHIATRY

140.01. Advanced Psychiatry Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry.
Kaltreider
Participation, with supervision of attending and resident staff of the Department of Psychiatry, in psychiatric assessment, treatment and/or consultation/liaison with adult or child inpatients or outpatients. Special focus experiences may be arranged. PSYCHIATRY

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry.
Kaltreider
Clinical clerkship in off-campus hospitals, approved by the chairperson of the department and the dean. PSYCHIATRY

140.05. Clinical Psychiatry. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry.
Kaltreider
Participation, under close supervision in accordance with students' level of experience and special interests, in clinical psychiatric treatment of adult or child inpatients or adult outpatients. PSYCHIATRY

140.06. Consultation Clerkship–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry.
Ahles
Supervised evaluation and treatment of patients on the Psychiatry Consultation Service, Liaison Units, Psychosomatic Clinic, and Emergency Room. Learning opportunities include teaching rounds, consultation seminar, biopsychosocial rounds, and consultation syllabus. PSYCHIATRY

140.07. Advanced Adult Inpatient Forensic Psychiatry–AS. (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of core curriculum in Psychiatry and approval of Dean's Office. Restriction: Must be by prior arrangement only. Make arrangements with Department of Psychiatry, UCSF Fresno, 2615 E. Clinton Avenue, Fresno, CA 93703. Lecture 5 hours. Seminar 2 hours. Library research 8 hours.
Sanders, Kiersch, Slater
In world's largest forensic hospital, students will observe admissions, evaluations, interviews of patients with a wide spectrum of psychopathology. Will participate in treatment planning and forensic seminars. Emphasis on legal aspects of psychiatry. Room and board provided through Atascadero State Hospital. PSYCHIATRY

150.01. Psychiatric Research. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry.
Kaltreider, Jones
Participation according to students' level of experience in experimental work in areas such as neurophysiology, operant conditioning, psychophysiology, immunochemistry, and nonlexical communication. All work is under the close supervision of members of the faculty. PSYCHIATRY

150.03. Sex Therapy & Medical Practice. (1.5 per week) F, W, Sp. Prerequisite: Consent of instructor and Department of Psychiatry.
Gendel
Effect of sex roles, self-esteem, attitudes, and values of clinician on treatment of sexual problems. Case studies, role playing, group discussion, film used to develop skills in introductory sex counseling. Readings, research project, or special interest paper may also be done. PSYCHIATRY

170.01. Intro to Study of Suicide. (2) § F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Lecture 2 hours.
Motto
Suicide is surveyed from a multidisciplinary approach in seminars led by persons working in the field. PSYCHIATRY

170.02. Alcoholism. (1) F. Lecture 1 hour.
P. Stewart
General issues in substance abuse as well as the pharmacologic, medical, and neurologic aspects of alcohol abuse. Treatment issues will be considered with emphasis on Alcoholics Anonymous. Family issues arising from alcohol abuse and special concerns for the health professional. PSYCHIATRY

170.12. Medical Scholars Program Workshops. (1-2) F, W, Sp. Prerequisite: Permission of the instructor. Workshop 2-4 hours.
Fullilove
Workshops in anatomy, neuroanatomy, cell biology, and physiology, offered concurrent to the first-year course, will present challenging material in the form of problem sets which students will solve in groups. Material, geared toward high-achieving students, will augment basic coursework with clinical and basic science information. PSYCHIATRY

170.17A. Issues in Psychiatry. (1-3) F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Seminar 1-3 hours.
Kaltreider
Explores focal psychiatric issues in systematic format. Current electives include substance abuse, women's psychological health, the development of physician identity, cross-cultural issues. New topics are designed according to faculty/student interests. PSYCHIATRY

170.17B. Issues in Psychiatry. (1-3) F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Seminar 1-3 hours.
Kaltreider
Explores focal psychiatric issues in systematic format. Current electives include substance abuse, women's psychological health, the development of physician identity, cross-cultural issues. New topics are designed according to faculty/student interests. PSYCHIATRY

170.17C. Issues in Psychiatry. (1-3) F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Seminar 1-3 hours.
Kaltreider
Explores focal psychiatric issues in systematic format. Current electives include substance abuse, women's psychological health, the development of physician identity, cross-cultural issues. New topics are designed according to faculty/student interests. PSYCHIATRY

170.18. Psychotherapy Research. (3) Sp. Prerequisite: Course in statistics and consent of Department of Psychiatry.
M. Horowitz
Participation in research activities at the Center for the Study of Neuroses. Lectures, laboratory, individual guidance to readings, and patient observation are included. PSYCHIATRY

170.19. Cultural Considerations in Health Care. (1) F. Lecture: 1 hour.
Lee
Introduction to the values and beliefs of various minority cultures regarding health and illness, with an emphasis on practical clinical skills in working with a diverse patient population, understanding particular psychosocial stressors relevant to minority patients, and an understanding of the historical factors which impact on the health of minority populations. PSYCHIATRY

170.20. Topics in the Psychology of Women: Feminist Persp. (1.5) F, W, Sp (one quarter per year). Lecture: 1 hour.
Gartrell, Johnson
In this seminar, there are small group discussions based on readings from feminist perspectives on the following topics: women's moral development; dominance/subordination; eating disorders/body image; multiple discriminations against women, including sexism, racism, anti-Semitism, classism, and homophobia. PSYCHIATRY

180. Sexual Issues in Medical Practice. (2) W. Seminar 2 hours.
Alperstein, Bullard
Social, behavioral, and clinical aspects of human sexuality are covered in a series of lectures and seminars. Lectures present didactic material and seminars focus on clinical and ethical problems related to sex and medical practice. PSYCHIATRY

198. Supervised Study. (1-5) § F, W, Sp. Prerequisite: Consent of Department of Psychiatry.
L. Epstein and Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. PSYCHIATRY

214. Practice of Clinical Social Work. (1.5) § F, W, Sp. Prerequisite: 1 year of clinical social work. Restricted to interns in clinical social work. Lecture 1.5 hours.
H. Roth
This course aims at integrating developmental and clinical theories with clinical social work practice toward enhancing clinical, conceptual, and consultative knowledge and skills. PSYCHIATRY

400. Com Mental Health System. (1) Su, W. Required for first-year residents in Psychiatry. Seminar 1 hour.
Surber
Focus is on special treatment issues involved in the care of the chronically disabled patient and of patients of various ethnic and minority backgrounds. PSYCHIATRY

401. Intro to Clinical Interviewing. (1) S, W. Prerequisite: Required for first-year residents in Psychiatry. Seminar 1 hour.
Jacobs, Goldfinger
Course teaches the rudiments of interviewing psychiatric inpatients. PSYCHIATRY

402. Introduction to Psychopathology. (1) Su, W. Required for first-year residents in Psychiatry. Seminar 1 hour.
Lu
Course provides a grounding in phenomenology and descriptive diagnostic features of the major psychopathologies, including the following types of disorders: schizophrenic, affective, organic mental, severe personality, and substance abuse. PSYCHIATRY

403. Intro to Psychopharmacology. (1) Su, W. Required for first-year residents in Psychiatry. Seminar 1 hour.
Batki
Course addresses basic issues in prescribing, including patient compliance, the placebo effect, and the dynamic significance of medications. Also includes a review of basic neurochemical processes. PSYCHIATRY

404. Intro to Child Development. (1) Su, W. Required for first-year residents in Psychiatry. Seminar 1 hour.
Hanson
An introduction to developmental framework, with emphasis on ages 0-3 years. PSYCHIATRY

411. Forensic Psychiatry. (1.5) W. Required for second-year residents in Psychiatry. Seminar 1.5 hours.
Terr
An elective seminar discussing the major aspects of forensic psychiatry relevant to the practice of the clinician. Topics covered include competency, commitment, and criminal responsibility. PSYCHIATRY

413. Psychol Aspects of Psychr. (1) F, W. Prerequisite: Required for second-year residents in Psychiatry. Seminar 1 hour.
Marmar
Examination of neurotic and character disorders from a psychodynamic perspective. PSYCHIATRY

414. Psychobiology. (1) F, W, Sp. Prerequisite: Required for second-year residents in Psychiatry. Seminar 1 hour.
J. Mueller
Seminar explores biochemistry, physiology, and neuroanatomy as related to mental functioning and behavior, and applies concepts to the understanding of etiology and biological treatment of psychoses. Phenomenology and psychopathology of disorders and rationale for various psychological interventions are studied. PSYCHIATRY

415. Intro to Clinical Research. (1) W. Prerequisite: Psychiatry Resident II standing. Seminar 1 hour.
Zegans, Temoshok
Course will introduce residents to clinical research as an essential body of knowledge and skills which can be integrated into present and future clinical work. Consideration of research within four broad paradigms: intrapsychic, sociocultural, behavioral psychological, and psychobiological. PSYCHIATRY

416. Psychoanalytic Theory. (1) F, W, Sp. Prerequisite: Required for second-year residents in Psychiatry. Seminar 1 hour.
Baumbacher
Seminar offers instruction in the theoretical bases of psychoanalysis. PSYCHIATRY

417. Child Psychopath/Psychotherapy. (1) Su, F. Prerequisite: Required for second-year residents in Psychiatry. Seminar 1 hour.
Binger, I. Philips
Seminar covers the theory and implementation of the technique of psychotherapy with children. Emphasis is placed on play therapy. The seminar will also cover psychopathology as manifested in children, including descriptions and possible ideologies. PSYCHIATRY

421. Psychoanalytic Psychotherapy. (1) F, W, Sp. Required for third-year residents in Psychiatry. Seminar 1 hour.
Amini, Baumbacher
Course explores the application of psychoanalytic theory to psychotherapy. PSYCHIATRY

422. Social Psychiatry. (1.5) F, W, Sp. Prerequisite: Required for third-year residents in Psychiatry, or consent of instructor. Seminar 1.5 hours.
F. A. Johnson, Pearlin
Course introduces residents to various aspects of social and community psychiatry. Topics include social psychiatry prior to 1950, development of community mental health programs in the U.S., related social sciences, and current developments in the field. PSYCHIATRY

423. Group Therapy. (1) F, W. Required for third-year residents in Psychiatry. Seminar 1 hour.
Zeitlin
Course provides a didactic introduction to the practice of outpatient group psychotherapy. PSYCHIATRY

431. Neurology. (1) W. Prerequisite: Required for fourth-year residents in Psychiatry. Lecture 1 hour.
Palatucci
Review of clinical neurology with emphasis on neurological disorders that may have psychiatric implications. PSYCHIATRY

450. Psychopharmacology for Psych OP. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.
Lannon, Stoterau
A seminar where participants read and present current psychopharmacological literature. Topics focus on 1) decision making regarding clinical syndromes in which medications would be helpful; 2) objective measures of treatment response; 3) practical drug management. PSYCHIATRY

451. Psychiatric Grand Rounds. (1.5) F, W, Sp. Lecture 1.5 hours.
Ostwald
Members of the Department of Psychiatry and distinguished guests make clinically centered presentations reflecting diverse areas of the field. PSYCHIATRY

456. Brief Psychotherapy. (2) W, Sp. Prerequisite: Graduate clinical trainee standing at SFGH, or consent of instructor. Lab 3 hours. Seminar 1 hour.
E. Burke, J. Cohen
Review of the literature on psychodynamically oriented brief psychotherapy and review of completed cases. PSYCHIATRY

457. Advanced Psychotherapy. (1) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.
Wallerstein, Kaltreider, Marmar
Course covers psychotherapy of selected cases with recordings of the process, supervision during treatment, and group seminars in which the therapy is reviewed in retrospect using microanalytic and macroanalytic levels of abstraction. PSYCHIATRY

458. Research on Mental Processes. (1.5) Su, F, W, Sp. Prerequisite: Graduate standing in Psychology, or PGY 2-5 in Psychiatric Residency. Minimum commitment of one year, exception to some medical students for a one-quarter commitment. Seminar 1.5 hours.
Horowitz, Marmar, Weiss
Guided research using an apprenticeship model involving recorded information from psychotherapy, research interviews, and experimental procedures using cognitive science methods. Systematic readings in the literature on meaning structures and defensive processes, including issues of motivation, attention, learning, and emotion. PSYCHIATRY

459. Evaluation of Psychotherapies. (1.5) F, W, Sp. Prerequisite: Resident in Department of Psychiatry or consent of instructor. Seminar 1.5 hours.
Marmar
Course provides framework for residents which will enable them to take a systematic and rational approach in evaluation of various psychotherapies, including a method of assessing the conceptual consistency and validity of a given approach. PSYCHIATRY

460. Theories of Personality. (1) F, W. Prerequisite: Resident standing in Department of Psychiatry or consent of instructor. Seminar 1 hour.
E. 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. PSYCHIATRY

462. Psychol Aspects Medication Usage. (1) F, W. Prerequisite: Consent of instructor. Seminar 1 hour.
Nevins
Course explores the psychological implications of prescribing medications. PSYCHIATRY

463. Clinical Case Conference. (1.5) F, W, Sp. Prerequisite: Consent of instructor. Conference 1.5 hours.
Gootnick
The theory of an individual outpatient psychotherapy is presented. The case in treatment is followed on a weekly basis. PSYCHIATRY

464. Adult Continuous Case Conference. (1.5) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1.5 hours. Course given at San Francisco Psychoanalytic Institute Library.
Oremland
Seminar reviewing the literature pertinent to psychotherapy of the severely disturbed, predominantly borderline patient. A case will be presented and discussed. PSYCHIATRY

465. Psychobiography & Creativity. (2-5) F, W, Sp. Prerequisite: Consent of instructor. Lecture 2-5 hours.
Ostwald
Course emphasizes the effects of mental illness on the lives of artists, scientists, statesmen, and other public figures. Biographical, autobiographical, and clinical studies of exceptional people will be compared. Students will be encouraged to select individual subjects for research. PSYCHIATRY

466. Behavioral Sciences Research. (1.5) Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 4.5 hours.
Callaway, Halliday, and Staff
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. PSYCHIATRY

481. Child Care Observation. (1) Su. Prerequisite: Required for first-year child psychiatry fellows, or consent of instructor. Field work 1.5 hours.
Reece
Participate and observe activities at UCSF Child Care/Study Center. Experiences are discussed with supervisor. Experience to be enlarged to include observations at elementary and junior high school. PSYCHIATRY

482. Growth & Development Seminar. (1) F, W, Sp. Prerequisite: Required for first-year child psy-

chiatry fellows, or consent of instructor. Seminar 1 hour.
Metcalf
Provides theoretical understanding of normal growth and development. Format is primarily presentations and group discussions. PSYCHIATRY

483. Principles of Therapeutic Meth. (1) F, W, Sp. Prerequisite: Required for first-year child psychiatry fellows, or consent of instructor. Seminar 1 hour.
I. Philips
Discussion of philosophy and practice of clinical work with patients. Includes history, principles, and methods of child psychiatry as well as all stages of child development and modalities of treatment. PSYCHIATRY

485. Psychopathology Literature Sem. (1) F, W, Sp. Prerequisite: Required for first-year child psychiatry fellows, or consent of instructor for others. Seminar 1 hour.
Binger and Staff
Extensive review of pertinent readings in child and adolescent psychiatry. PSYCHIATRY

486. Devel Disabilities Seminar. (2) Su. Prerequisite: Required for first-year child psychiatry fellows, or consent of instructor. Seminar 2 hours.
Flohr
Lectures focus on mental retardation, deafness, blindness, and cerebral palsy, with emphasis on the developmental, family, and social aspects. PSYCHIATRY

487. Adolescent Continuous Case Seminar. (1.5) § F, W, Sp. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor for others. Seminar 1.5 hours.
Gelber
Participation with senior staff member to discuss ongoing dynamics of psychotherapeutic work with adolescents. PSYCHIATRY

488. Child Psychiatry Clinical Conf. (1.5) F, W, Sp. Prerequisite: Required for first- and second-year child psychiatry fellows, or consent of instructor for others. Conference 1.5 hours.
Sikorski
The Child and Adolescent Service has developed a continuing education program of distinguished speakers in the field of child psychiatry and related disciplines. Clinical problems and mini-courses are presented. PSYCHIATRY

489. Social & Legal Issues: Their Impact on Clinical Practice. (1) W, Sp. Prerequisite: Required for first-year child psychiatry fellows; others with the consent of the instructor. Seminar 1 hour.
Reece
Covers current social and legal issues, policy questions, mental health legislation, and major court decisions which have impact on clinical practice and services. Areas included: divorce and child custody/support, domestic violence, day care, juvenile justice, schools, and cross-cultural psychiatry. PSYCHIATRY

490. Psychological & Educational Evaluation. (0.5) SS2. Prerequisite: Required for first-year child psychiatry fellows or consent of instructor for others.
D. Morrison
Seminar is focused on the most common and prevalently used methods of assessing intelligence, educational achievement, perceptual-motor integration, and personality in children. Actual testing materials as well as supporting research are covered. Participation is required. PSYCHIATRY

491. Res Methodology in Child Psychr. (1) F, W, Sp. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1 hour.
D. Morrison
Review of basics of experimental design and methodology such as reliability and validity of measuring techniques, statistical inference, control group designs, and pre- and post-test designs. Clinical research with children provides a focus for discussion of relevant issues. PSYCHIATRY

492. Ped Consultation Orientation. (1.5) Su. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1.5 hours.
Shatkin
Discussion of goals, attitudes, and skills required in child psychiatry consultation/liaison work. PSYCHIATRY

493. Pediatric Consultation Seminar. (1.5) F. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1.5 hours.
Shatkin
Discussion of formal consultations of cases requested by the Pediatric Inpatient Service, Child Study Center, Family Medicine Clinic, etc. PSYCHIATRY

494. Com Consultation Literature Sem. (1) Su. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1 hour.
Reece, Sikorski
Review of literature and discussions on community consultation. PSYCHIATRY

495. Child Continuous Case Seminar. (1.5) F, W, Sp. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor for others. Seminar 1.5 hours.
Amini
Participation with senior staff member to discuss ongoing dynamics of psychotherapeutic work with a preschool or latency-aged child. PSYCHIATRY

496. Teaching & Supervision Seminar. (1) Su, F, W, Sp. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1 hour.
I. Philips
Discussion of supervision of general psychiatry residents and medical students. PSYCHIATRY

497. Adolescent Psychiatry. (1) F, W, Sp. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1 hour.
M. Schwartz
Discussion of clinical problems of adolescents. PSYCHIATRY

498. Biological Basis of Child & Adolescent Psychiatry. (1) SS2. Prerequisite: Required for first-year child psychiatry fellows. Seminar 1 hour.
Binger, Lowe
Review of biological bases and psychopharmacological approaches to child and adolescent psychiatry. PSYCHIATRY

499. Child and Adolescent Forensic Seminar. (0.75) SS2. Prerequisite: Required for second-year child psychiatry fellows. Seminar 2 hours.
Terr
A seminar discussing the major aspects of forensic child and adolescent psychiatry relevant to the practice of the clinician. Topics covered include childhood sexual abuse, trauma, court evaluations, and custody issues. Required for Child Psychiatry Fellows. PSYCHIATRY

Psychology

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. DENT PUB HLTH

180.02. Psychol Aspects of Treatmnt Plan. (1) Sp. Seminar 1 hour.
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. DENT PUB HLTH

180.03. Adv Psychol for Dental Hygiene. (1) Sp. Seminar 1 hour.
Plainfield
Seminar discussions on the emotional aspects of interpersonal transactions among office personnel, therapists, and patients. DENT PUB HLTH

180.05. Stress among Hlth Professionals. (2) § F. Seminar 2 hours.
Garfield
Course will focus on a theoretical understanding of the origins of job stress and the nature of burnout, and on practical and programmatic methods of reducing the stress overload incurred by physicians, nurses, and other health care professionals. PSYCHIATRY

180.08. Brain-Behavior Research Methods. (3) § W. Prerequisite: Survey of physiological psychology, or equivalent. Requires prior consent of instructor. Lecture 2 hours. Seminar 1 hour.
Galin and Staff
An extensive survey of techniques and strategies emphasizing critical appreciation of principles and range of appropriateness rather than how-to-do-it. Topics include clinical lesion studies, microscopic anatomy, neuroradiology, neurochemistry, psychopharmacology, autonomic psychophysiology, scalp electrophysiology, behavioral genetics, neuropsychological assessment. PSYCHIATRY

180.09. Neuropsychology of Dissociation. (3) F. § Prerequisite: Prior consent of instructor. Seminar 3 hours.
Galin
Topics in Neurological Disconnection and Psychological Dissociation: an advanced seminar considering cognitive and neuropsychological aspects of integration and fragmentation of the whole person. Topics will vary from year to year. Examples are split-brain syndromes, hypnosis, and multiple personality disorder. PSYCHIATRY

181.02. Cerebral Hemispheric Specialization. (2) § Sp. Prerequisite: Background in neurophysiology, anatomy, cognitive psychology; intended for advanced students. Requires prior consent of instructor. Seminar 2 hours.
Galin
Group discussions of readings in seminar format of neuropsychology of hemispheric specialization and integration; developmental, psychiatric, and educational implications; evaluation of data from study of brain lesions, electrophysiological recordings, and behavioral testing. PSYCHIATRY

181.07. Coping with Stress in Med School. (1) § F, W, Sp. Seminar 1 hour. Enrollment limited. Priority given to medical students.
Blackwell
Consideration of psychological processes utilized under stress and of alternative constructive methods for coping, with practice in using these techniques. Course is designed to help students handle stress and apply such principles to management of patients. PSYCHIATRY

198. Supervised Study. (1-5) § F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. PSYCHIATRY

202A-B. Computer Simulation of Human Interaction. (3-3) § W, Sp. Prerequisite: Psychology 257 or equivalent. Lecture 1 hour. Lab 6 hours.
Starkweather
The development and testing of theoretical models of personality are explored by means of computer programs. Students program the computer for simulation and symbol manipulation. PSYCHIATRY

205. Child Development. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.
C. Lewis

Course will focus on major issues, theories, and findings in child development. Topics covered will include attachment; Piagetian and other theories of cognitive development; language development; moral development and pro-social behavior; aggression; and self-esteem and competence. PSYCHIATRY

211A-B-C. Theories of Personality. (2-2) § F, W, Sp. Prerequisite: Graduate standing and consent of instructor. Psychology 211A is prerequisite to 211B & 211C, but may be taken independently. Seminar 2 hours. Enrollment limited.
J. Fisher
Survey of major contemporary theories of personality, including some more recent, selected philosophic points of view; study of their structure, how they conceptualize personality development, how they relate to empirical phenomena, and what research is generated by them. PSYCHIATRY

212. Psychological Stress & Coping. (4) § Sp. Prerequisite: Consent of instructor. Seminar 4 hours. Offered in alternate years. Offered 1990-91.
F. Cohen
Course examines stress and coping theory and research from clinical, field, and laboratory settings; measures of stress; issues in stress research; the nature of coping and coping processes. PSYCHIATRY

222. Practicum in Program Evaluation. (2-4) § F, W, Sp. Prerequisite: Graduate standing and some experience in interviewing. Lab 3 hours. Seminar 6 hours during first 4-6 weeks.
Blackwell
After an intensive seminar introduction to basic concepts of evaluation, students will carry out various evaluations on clinical clerkships in the School of Medicine. The length of the introductory period will depend on previous experience of students. PSYCHIATRY

230. Physiology for Health Psychologists. (4) § F. Prerequisite: Graduate standing in Health Psychology program or consent of instructor. Lecture 4 hours. Offered in alternate years. Offered 1990-91.
Naifeh
An overview of major organ systems of the human body stressing psychological impacts on their functioning and psychological consequences of abnormality. Course will prepare student for reading medical literature and interacting effectively with health professionals in planning research. PSYCHIATRY

236A-B-C. Human Neurophysiology. (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.
Yingling
A journal club format seminar course which will examine the current literature in human EEG and evoked potentials, with emphasis on identification of cerebral sources. Students will make oral class presentations. PSYCHIATRY

237. Neurophysiological Mech of EEG. (3) § W. Prerequisite: At least one course in physiological psychology or neurobiology, or consent of instructor. Lecture 1 hour. Seminar 2 hours.
Yingling
Course will examine the neuroanatomical and neurophysiological mechanisms underlying the generation and regulation of EEG and Event-related Potentials, their measurement and clinical uses. Emphasis on the nature and limitations of inferences concerning brain activity obtainable from scalp recordings. PSYCHIATRY

248. Independent Study. (1-6) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Independent study under the supervision of a member of the faculty. PSYCHIATRY

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

254A. Research Methods. (4) § Sp. Prerequisite: Consent of instructor. Lecture 4 hours. Offered in alternate years. Offered 1990-91.
N. Adler
An overview of research strategies and their associated strengths and weaknesses, experimental and quasi-experimental designs, correlational approaches, interview techniques, survey and questionnaire construction, uses of archival data, and observational techniques. PSYCHIATRY

254B. Research Methods. (4) § Sp. Prerequisite: Consent of instructor. Lecture 4 hours. Offered in alternate years. Offered 1990-91.
N. Adler
An in-depth study of the research process with emphasis on quasi-experimental design, ethics of research and grant writing. PSYCHIATRY

260. The Health System. (4) § W. Prerequisite: Graduate standing in Health Psychology Program, or consent of instructor. Lecture 2 hours. Seminar 2 hours. Offered in alternate years. Not offered 1990-91.
Attkisson
Function and tasks of the health system with emphasis on the study of health service organizations and health services delivery from the perspective of living systems theory and organizational psychology. PSYCHIATRY

265. Stress & Bodily Disease. (4) § Sp. Prerequisite: Consent of instructor. Seminar 4 hours. Offered in alternate years. Not offered 1990-91.
F. Cohen
Examination of the psychological and physiological models and empirical research linking stress and other psychological factors to the development of bodily disease. PSYCHIATRY

266. Reproductive Behavior. (3) § Sp. Prerequisite: Consent of instructor. Seminar 3 hours. Offered in alternate years. Not offered 1990-91.
N. Adler

Examination of the role that psychological and social factors can play in a variety of reproductive behaviors: pregnancy, obstetrical complications, postpartum reactions, infertility, contraceptive use and nonuse, spontaneous and induced abortion. PSYCHIATRY

281A-B-C-D. Clinical Research Seminar. (1.5–1.5–1.5–1.5) § Su, F, W, Sp. Prerequisite: Consent of instructor. Seminar 1.5 hours.
Attkisson
Seminar discussions of contemporary research in clinical psychology. Issues covered include major problems in conducting clinical research, skills and methods required in clinical research, and career development for the clinical psychologist. Course is intended primarily for advanced clinical psychology students. PSYCHIATRY

285A-B-C-D. Intermediate Family Therapy. (1.5-3-3-3) § SS2, F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Four-quarter course.
Hatcher
Stages in family development, communications analysis, role definitions, family myths, power and resistance systems, growth models of family therapy, and intervention techniques. Emphasis on clinical and practical issues, videotape presentations of families in treatment, clinical supervision of ongoing cases. PSYCHIATRY

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

300. Teaching Practicum. (0) § F, W, or Sp. Prerequisite: Consent of instructor. Lecture and lab variable.
Staff
Supervised classroom or tutorial teaching experience. PSYCHIATRY

Radiation Oncology

140.01. Radiation Oncology Clerkship–UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C.
Larson
Participation in examination of cancer patients under treatment in radiation oncology. Students participate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

140.03. Radiation Oncology Clerkship–UCB. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C.
J. Castro
Participation in examination of cancer patients under treatment in radiation oncology. Students participate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

140.06. Radiation Oncology Clerkship–MZ. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C.
J. Castro
Participation in examination of cancer patients under treatment in the Claire Zellerbach Saroni Tumor Institute at MZ. Students participate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

150.01. Research Selective. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C.
Dewey
Individual research in radiation oncology by arrangement with the chairperson of the department. Students work under close supervision of a member of the staff. RADIOLOGY

403. Radiation Oncology Grand Rounds. (1) Su, F, W, Sp. Lecture 1 hour.
T. Phillips
Rounds include presentation of problem cases with discussions of diagnosis and treatment as well as biologic implications. Frequent guest lectures are used to cover important aspects of oncology. RADIOLOGY

404. Cancer Specialty Seminar. (3) Su, F, W, Sp. Seminar 3 hours.
T. Phillips
Seminars include discussions of the diagnosis, treatment, and results of specialty oncology problems, including head and neck, gynecologic, otolaryngologic, pediatric, dermatologic, lymphomatous, and general malignancies. RADIOLOGY

415. Radiobiology Seminar. (1) F, W, Sp. Seminar 1 hour.
Dewey
Study of principles of radiobiology and their application to radiotherapy. Seminars deal in depth with textbooks, selected readings, and prepared seminars leading to understanding of mechanisms of action of radiation in clinical radiotherapy. Oriented to radiotherapy fellows and residents. RADIOLOGY

423. Therapeutic Treatment Planning. (10) Su, F, W, Sp. Prerequisite: Residents assigned to therapeutic radiology. One-month workshop course.
V. Smith
A workshop course to provide residents in therapeutic radiology with the elements of treatment planning and dose calculations. RADIOLOGY

424. Therapeutic Radiology Physics. (1) F, W, Sp. Prerequisite: Residents assigned to therapeutic radiology. Lecture-seminar 1 hour.
Weaver
A lecture-seminar course with practical sessions to provide the resident with a basic knowledge of radiological physics with special reference to those aspects relating to therapeutic radiology. RADIOLOGY

454. Clinical Therapeutic Radiology. (1.5 per week) Su, F, W, Sp.
T. Phillips
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 newly referred patients; chart rounds include the discussion of patients under treatment. RADIOLOGY

Radiology

100. Intro to Clinical Radiology. (2) W. 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.
Carlsson
Course provides instruction in basic aspects of therapeutic and diagnostic radiology and nuclear medicine. Illustration of diagnostic and therapeutic modalities in specific disease states provides instruction in use of radiologic resources. RADIOLOGY

140.01. Advanced Roentgen Diagnosis. (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 140.03 or 140.09 or 140.17. Consent of instructor.
Carlsson
Advanced clinical clerkship for students interested in a career in academic radiology. Students observe clinical work, observe or participate in research, and write a term paper. RADIOLOGY

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C.
Carlsson
Clinical clerkship in approved hospital by special arrangement and approval of the chairperson of the department and the dean. RADIOLOGY

140.03. Diagnostic Radiology. (1.5 per week) Su, F, W, Sp. Prerequisite: Third-year Medicine 131A-B-C. Fourth-year Medicine 110 and Surgery 110.
Carlsson, S. Ross, Colangelo
Clerkship in radiology for third- and fourth-year students. Observation of procedures, review of pathology, pathophysiology, diagnosis, and natural history of selected diseases through study of roentgenograms with case histories. Potentials and limitations of radiologic method included. RADIOLOGY.

140.04. Nuclear Medicine. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C.
Hattner
Observation of basic nuclear medicine procedures and participation in diagnostic tests employing radioisotopic tracers. RADIOLOGY

140.09. Diagnostic Radiology–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor.
Minagi
Students serve a clerkship in the Diagnostic Section of the Department of Radiology. They observe performance of radiologic procedures and interpretation of films, attend conferences, and learn basic philosophy of conducting radiologic examinations and the basic rules of interpretation. RADIOLOGY

140.14. Diagnostic Radiology–VAF & VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing, or third-year standing with consent of instructor.
M. Anderson, J. L. Williams, and Staff
Acquaints students with available techniques in diagnostic radiology, including nuclear medicine, ultrasound, computed tomographic scanning, angiography, other special procedures, conventional X-ray examination, fluoroscopy, and provides an introduction to "routine" film interpretation. Students have assignments at VAF, VMC, community hospitals. RADIOLOGY

140.16. Basic Nuclear Medicine–STA. (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.
Corbus, Touya
Imaging techniques including nuclear cardiology, single photo emission tomography, and computerized processing at St. Agnes Medical Center, Fresno. RADIOLOGY

140.17. Clinical Radiology. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Wall
Students may be involved in clinical diagnostic procedures such as body and neuro computed tomography, ultrasound, fluoroscope, chest, bone, and interventional radiography, with concentration on any one of these areas. Clinical or research projects may be undertaken with permission of the instructor. RADIOLOGY

150.01. Research in Radiology. (1-1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and approval of instructor. For students seriously interested in a career in academic medicine.
Carlsson, S. Ross
A research project under the direction of a member of the faculty. RADIOLOGY

170.01. Clinical Application of Anatomy & Pathology. (1-2) F, W, Sp. First-year standing. Lecture 1-2 hours.
S. Ross, Colangelo
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. RADIOLOGY

170.02. Clinical Application of Anatomy & Pathology. (1-3) F, W, Sp. Second-year standing. Lecture 1-3 hours.
S. Ross, Colangelo
A lecture course limited to small groups, with active participation on selected aspects of pathological anatomy and its usefulness in understanding disease, its origins, development, and clinical manifestations. RADIOLOGY

170.08. Nuclear Medicine Physics & Imaging. (2,2) F, W. Prerequisite: B.A. or M.D. degree. Given concurrently with Radiology 170.09. Lecture 2 hours a week for 6 weeks. Independent study 10 hours.
Perez-Mendez
Introduction to the physics of radioactivity, nuclear instrumentation and gamma-ray imaging techniques. RADIOLOGY

170.09. Introduction to Nuclear Medicine. (3.5) Su, F, W, Sp. Prerequisite: Given concurrently with Radiology 170.08. Lecture 5 hours a week for 6 weeks. Independent study 10 hours.
D. Price
Introduction to basic nuclear medicine diagnostic procedures, both in vivo and in vitro, and therapy with radiopharmaceuticals. RADIOLOGY

170.10. Radiologic Aspects of Surgery. (1) Su, F, W, Sp. Prerequisite: Third-year surgery. Seminar 1 hour.
Minagi, Laing
Weekly seminar covering the radiologic studies of surgical cases emphasizing indications, risks, and information derived from procedures. Active participation in X-ray interpretation is included. RADIOLOGY

170.11. Emergency Radiology. (1) Su. Lecture 1 hour.
Minagi
An elective course for fourth-year medical students. Consideration of the role of the radiologist as a consultant in the emergency room. Topics covered include head injuries, fractures, dislocations, chest, abdominal and genito-urinary trauma, and management of contrast reactions. RADIOLOGY

198. Supervised Study. (1-5) F, W, Sp.
Carlsson and Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. RADIOLOGY

199. Laboratory Project. (1-5) F, W, Sp.
Carlsson and Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. RADIOLOGY

220. Radiol Physics for Physicists. (2) § F, W, Sp. Prerequisite: Bachelor's or higher degree in the physical sciences.
Staff
Seminars provide physicists with an in-depth knowledge of radiological physics. RADIOLOGY

400. Diagnostic Radiology Seminar. (1) Su, F, W, Sp. Lecture 1 hour.
H. Goldberg
Faculty from radiology and other departments lecture and discuss various diseases of all systems of the body. Residents prepare case histories stressing roentgen findings and correlative surgical and laboratory work, special studies, library and film research. RADIOLOGY

401. Diagnostic Case Rounds. (2) Su, F, W, Sp.
Margulis, Gooding
Films of interesting cases from the daily work are presented and reviewed. Roentgenograms of surgically and pathologically proved cases are correlated with the gross and microscopic pathologic findings. RADIOLOGY

402. Diagnostic Specialty Seminar. (3) F, W, Sp. Required for UC residents in diagnostic radiology.
Margulis
Seminars require preparation and presentation of roentgen findings on patients under discussion at medical, surgical, pediatric, obstetric and gynecologic departmental conferences and seminars on congenital heart disease, disease of the gastrointestinal tract, and orthopaedics. RADIOLOGY

403. Emergency Radiology. (1) F, W. Prerequisite: Required for first-year residents in radiology. Lecture 1 hour.
Minagi
Role of radiologist as consultant in the emergency room; head injuries, fractures, dislocations, blunt and penetrating chest trauma, blunt and penetrating abdominal trauma, trauma to genito-urinary system; management of contrast reactions; indications for, conduction of, interpretation of special radiologic procedures. RADIOLOGY

405. Radiological Research. (1-8) Su, F, W, Sp. Elective.
Margulis
Numerous research projects are conducted in the department and facilities are available for new ones. Residents are encouraged to take advantage of these opportunities. RADIOLOGY

408. Radiology Specialty Seminar–SFGH. (3) Su, F, W, Sp.
Coulson
Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. This course includes surgical and medical radiological rounds, consultative tumor board, clinicopathological conferences, and other department grand rounds. RADIOLOGY

409. Radiology Specialty Seminar–VA. (3) Su, F, W, Sp. Seminar 3 hours.
Akin
Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. These include medical-surgical, clinicopathological, chest, medical X-ray, rheumatology, neurology, and neurological surgery conferences; consultative tumor board; and surgical and orthopaedic grand rounds. RADIOLOGY

410. Radiat Effects on Genes & Chrom. (2) W. Prerequisite: Consent of instructor. Lecture 2 hours.
S. Wolff
Concepts and mathematics of target theory related to damage of genetic apparatus. Biophysical and biochemical studies on induction of intragenic and

intergenic mutations that give insight into the structure of chromosomes and interaction of radiation with biological material. RADIOLOGY

412. Pathology. (1) Su, F, W, Sp.
VA **Hinchcliffe**
Course includes review of surgical pathology material and attendance at autopsy rounds. RADIOLOGY

414. Physics of Diagnostic Radiology. (2) W, Sp. Lecture 1.5 hours. Lab 2 hours.
R. Gould
Course is designed to acquaint residents with the physical principles of diagnostic radiology. Topics include generation and extraction of radiologic information, image conversion, recording methods, and special-purpose equipment. CT and ultrasound physics are discussed. RADIOLOGY

419. Growth Kinetics–Cells & Tumors. (2) Sp. Prerequisite: Consent of instructor. Lecture 2 hours.
Cleaver, Patt
An analysis of cell population growth in tissues, tumors, and cultures. Emphasis is given to radioactive tracers such as thymidine and its biochemistry, and experimental methods for studying cell proliferation in vivo and in vitro. RADIOLOGY

420. Nuclear Medicine Seminar. (1) F, W, Sp.
Hattner and Staff
Rotating assignments of topics for discussion by residents in nuclear medicine training programs in all affiliated hospitals. Critical reviews of available information in limited areas are used to provide a broad review of nuclear medicine for all trainees. RADIOLOGY

450. Clinical Nuclear Medicine. (1.5 per week) Su, F, W, Sp.
Hattner and Staff
Clinical experience in diagnostic and therapeutic nuclear medicine to satisfy requirements of American Board of Radiology for certification in diagnostic radiology and radiation therapy. RADIOLOGY

451. Clinical Diagnostic Radiology. (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 450.
Margulis
Residents, under supervision, carry out radiological examination and interpretation of X-rays of patients referred from wards and outpatient clinics. The chief resident has certain administrative duties relative to the resident training program. RADIOLOGY

452. Clinical Diagnostic Radiology. (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 450.
VA **Akin**
Residents, under supervision, are responsible for the diagnostic activities of the department, including diagnostic consultations and reports, history-taking, and physical examinations. In addition, the chief resident has certain administrative duties relative to the resident training program. RADIOLOGY

453. Clinical Radiology. (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 450.
SFGH **Coulson**
Residents are responsible for the diagnostic activities of the department under the direction of staff radiologists including diagnostic consultations and reports, history-taking, and physical examinations. RADIOLOGY

Removable Prosthodontics

400. Approaches to Maxofac Prosthod. (1) F, W, Sp. Lecture 1 hour.
Zlotolow
Course is designed to acquaint residents with multidisciplinary aspects of maxillofacial prosthetics. Lectures will be given on maxillofacial prosthetic techniques, oncology, head and neck surgery, plastic surgery, oral surgery, therapeutic radiology, psychology and related oral biology. RESTOR DENT

489.01. Clinical Maxillofacial Prosthod. (1-6) F, W, Sp. Lab variable.
Zlotolow
Residents and advanced prosthodontic students will observe and perform maxillofacial prosthodontic services for patients in the Maxillofacial Clinic. A detailed case history will be required each quarter. Attendance at related tumor board conferences and field trips to other therapy centers. RESTOR DENT

Restorative Dentistry

110A. Intro to Restorative Dentistry. (2) F. Prerequisite: Concurrent enrollment in RD 115A. Lecture 2 hours.
Braly and Staff
An introductory lecture course including tooth morphology, development and form of primary and permanent dentition, biomechanical effects on cavity preparation, and theory of cavity design and preparation. RESTOR DENT

110B. Intro to Restorative Dentistry. (4) W. Prerequisite: RD 110A, 115A. Concurrent enrollment in RD 115B. Lecture 4 hours.
Braly, McNeill, Marshall, Yip
Continuation of introductory course. Topics include application of individual tooth and arch forms to interarch relationships; the physics, chemistry, and metallurgy of materials used in dentistry; physical and chemical effects of dental materials (gypsum, cements, resins, waxes, colloids, metals); instrumentation and procedures in cutting tooth structure. RESTOR DENT

110C. Intro to Restorative Dentistry. (4) Sp. Prerequisite: RD 110B and 115B. Concurrent enrollment in RD 115C. Lecture 4 hours.
Braly, Holmes, McNeill, Marshall, Yip

Topics include physical and chemical responses to dental materials; principles of articulation, cast mounting, and waxing prosthodontics; biological background and clinical application of techniques used in complete denture prosthodontics; principles and procedures of intracoronal restoration of teeth. RESTOR DENT

115A. Intro to Restorative Techniques. (2) F. Prerequisite: Concurrent enrollment in RD 110A. Lab 6 hours.
Braly, Hamaguchi
Introductory laboratory course in restorative dental techniques. Topics include study of individual tooth form and relationship to adjacent and opposing structures. RESTOR DENT

115B. Intro to Restorative Techniques. (3) W. Prerequisite: RD 110A and 115A. Concurrent enrollment in RD 110B. Lab 9 hours.
Braly, Hamaguchi, Yip
Continuation of restorative dental laboratory course. Topics include dental and anatomical relationships within the dental arch and between opposing arches; application of principles involved in cavity design and preparation. RESTOR DENT

115C. Intro to Restorative Techniques. (3) Sp. Prerequisite: RD 110B and 115B. Concurrent enrollment in RD 110C and 116. Lab 9 hours.
Braly, Hamaguchi, Yip
Continuation of restorative dental laboratory course. Topics include basic techniques of fixed prosthodontics and operative cavity design and preparation. RESTOR DENT

116. Primary Clinical Care. (2) W, Sp. Prerequisite: RD 110B and 115B. Lecture 1 hour. Clinic 3 hours.
Braly, Eakle
Introduction to clinical dentistry: students perform a comprehensive baseline examination of the oral cavity and evaluation of the patient's health status. RESTOR DENT

120A. Restor Dent Techniques Theory. (5) Pre-F, F. Prerequisite: RD 110C, 115C, 116. Concurrent enrollment in RD 125A. Lecture 6 hours/week for 4 weeks Pre-F, 3 hours/week for 10 weeks F.
Braly and Staff
Instruction in theory and principles of cast dental restoration, including fundamentals of construction; fundamentals of partial denture design and construction. RESTOR DENT

120B. Restor Dent Techniques Theory. (3) W. Prerequisite: RD 120A, 125A, 126A. Concurrent enrollment in RD 125A. Lecture 3 hours.
Braly and Staff
Theory and principles of dental restorations: rationale for use of clinical restorative materials, manipulation and clinical application of restorative systems; introduction to endodontics, including background for clinical practice, continuing discussions of theory and principles in operative dentistry, fixed and removable prosthodontics. RESTOR DENT

120C. Restor Dent Techniques Theory. (5) Sp. Prerequisite: RD 120B, 125B, 126B. Concurrent enrollment in RD 125C. Lecture 5 hours.
Braly and Staff
This course concludes the preclinical lecture series in restorative dentistry. Theories and principles in the disciplines of biomaterials, endodontics, fixed prosthodontics, operative dentistry, and removable prosthodontics are interrelated, and clinical application of principles is stressed. RESTOR DENT

125A. Restorative Dental Techniques. (2 Pre-F, 5 F) Pre-F, F. Prerequisite: RD 110C, 115C, 116. Concurrent enrollment in RD 120A. Lab 18 hours/week for 4 weeks Pre-F, 15 hours/week for 10 weeks F.
Braly and Staff
Laboratory instruction in the disciplines of fixed prosthodontics, operative dentistry, and removable prosthodontics. Topics include instruction in basic bridge construction, ceramo-metal restorations, cast gold restorations, and partial denture construction. RESTOR DENT

125B. Restorative Dental Techniques. (5) W. Prerequisite: RD 120A and 125A. Concurrent enrollment in RD 120B. Lab 15 hours.
Braly and Staff
Continuation of laboratory instruction in the disciplines of endodontics, fixed and removable prosthodontics. Techniques include lab procedures involved in root canal therapy, instruction in ceramo-metal restoration, and the fabrication of immediate dentures. RESTOR DENT

125C. Restorative Dental Techniques. (5) Sp. Prerequisite: RD 120B and 125B. Concurrent enrollment in RD 120C. Lab 15 hours.
Braly and Staff
Continuing laboratory instruction in the disciplines of operative dentistry and removable prosthodontics. Techniques include buildup of teeth, bases, liners, and caries removal; composite/sealants/veneers and the replacement of missing teeth. RESTOR DENT

126A-B-C. Comprehensive Clinical Care. (0-4.5) Pre-F, F, W, Sp. Prerequisite: RD 120B and 125B. Concurrent enrollment in RD 120C and 125C. Clinic 6 hours/week for 4 weeks Pre-F, 3 hours/week F, W, Sp. Lecture 2 hours/week Pre-F.
Braly, Maxwell, and Staff
Thirty hours per quarter of clinic in comprehensive case workup of dental patients. Includes case history, clinical examination, diagnosis, and treatment planning to meet the patient's total dental needs. RESTOR DENT

130.01. Restorative Materials & Techniques: Theory. (2) Su. Prerequisite: RD 120C, 125C, and 126C. Lecture 3 hours/week for 8 weeks.
Tueller and Staff
Lectures to introduce students to the clinic. Emphasis is on clinical application of techniques taught in labs. Topics include diagnosis, occlusion, tooth preparation, temporization, and gerodontology. RESTOR DENT

130.02. Clin Application of Techniques. (5) F. Prerequisite: RD 130.01. Concurrent enrollment in RD 109. Lecture 5 hours.
Jendresen, Rosenberg, Tueller, Braly, A. Green, Lacy
Continuation of RD 130.01, with emphasis on clinical application of restorative techniques. Topics include diagnosis and treatment of pulp disease, tooth preparation and impression materials, diagnosis and treatment of dental emergencies, and treatment planning for the edentulous patient. RESTOR DENT

130.03. Clin Application of Techniques. (3) W. Prerequisite: RD 130.02. Concurrent enrollment in RD 109. Lecture 3 hours.
Jendresen, Tueller, Braly, Finzen
Continuation of RD 130.02, with emphasis on clinical application of restorative techniques. Topics include temporary restorations and occlusal therapies, rationale of cutting techniques and pulpal response to restorative treatment, and treatment planning for removable partial dentures. RESTOR DENT

130.04. Clin Application of Techniques. (4) Sp. Prerequisite: RD 130.03. Concurrent enrollment in RD 139. Lecture 4 hours.
Jendresen, Rosenberg, Tueller, Braly, Chierici
Concluding lectures on clinical application of restorative techniques. Topics include understanding why clinical failures occur with selected materials; biological responses to dental materials; pulp protection; pulpal response to treatment; and prosthetic treatment of patients with congenital or acquired malformations. RESTOR DENT

137. Clinical Endodontics. (0-0.5) Su, F, W, Sp. Prerequisite: RD 120C, 125C, 126C. Concurrent enrollment in RD 130 lecture series required. Clinic variable.
Goodis
Clinical instruction and practice in the discipline of prosthodontics. Students are expected to pass a qualifying examination by the end of spring quarter of the third year. RESTOR DENT

138. Prosthodontics Clinic. (0-1) Su, F, W, Sp. Prerequisite: RD 120C, 125C, 126C. Concurrent enrollment in RD 130 lecture series required. Clinic variable.
Finzen
Clinical instruction and practice in the disciplines of endodontics, fixed prosthodontics, operative and primary care, and removable prosthodontics. Course is graded after student passes qualifying examinations at the end of spring quarter, third year. RESTOR DENT

139. Clinical Restorative Dentistry. (0-18) Su, F, W, Sp. Prerequisite: RD 120C, 125C, 126C. Concurrent enrollment in RD 130 lecture series required. Students are required to successfully complete a minimum of 5 units in RD 139. Clinic variable.
Tueller
Clinical instruction and practice in oral diagnosis and treatment planning. Students are required to pass a series of qualifying examinations by the end of spring quarter of the third year. RESTOR DENT

147. Clinical Endodontics. (0-2) Su, F, W, Sp. Prerequisite: Completion of RD 130.04, 137, 138, 139. Must be taken concurrently with RD 149. Clinic variable.
Goodis
Continuation of clinical instruction and practice in the discipline of endodontics. Students are expected to pass a clinical qualifying examination by the end of spring quarter of the fourth year. RESTOR DENT

148. Clinical Prosthodontics. (0-5) Su, F, W, Sp. Prerequisite: Concurrent enrollment in RD 149. Clinic variable.
Finzen
Continuation of clinical instruction and practice in the discipline of prosthodontics Students are expected to pass a clinical qualifying examination by the end of spring quarter of the fourth year. RESTOR DENT

149. Clinical Restorative Dentistry. (0-18) Su, F, W, Sp. Prerequisite: Successful completion of RD 130.04, 137, 138, 139. Concurrent enrollment in RD 147, 148. Clinic variable.
Tueller, Lacy
Continuation of clinical instruction and practice in oral diagnosis, treatment planning, and restorative dentistry. Students are required to pass a series of qualifying examinations by the end of spring quarter of the fourth year. RESTOR DENT

170A-B-C-D-E-F-G-H. Prosthodontics Literature Review. (0-4) **A, E:** Su. **B, F:** F. **C, G:** W. **D, H:** Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Seminar 1-4 hours. Two-year course.
T. Curtis, Radke
Current and past prosthodontic literature will be studied and discussed. Students will learn to distinguish between appropriate, controversial, and inappropriate prosthodontics literature. RESTOR DENT

171A-B-C-D-E-F-G-H. Prosthodontic Treatment Planning. (0-2) **A, E:** Su. **B, F:** F. **C, G:** W. **D, H:** Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Lecture 1 hour. Seminar 1 hour. Two-year course.
T. Curtis, Radke
A treatment plan will be discussed and developed for each patient after all diagnostic aids have been gathered. Students will be responsible for establishing an initial treatment plan prior to the seminar and for justifying it before the group. RESTOR DENT

172A-B-C-D-E-F-G-H. Prosthodontic Procedures. (0-2) **A, E:** Su. **B, F:** F. **C, G:** W. **D, H:** Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Lecture 1 hour. Seminar 1 hour. Two-year course.
T. Curtis, Radke

Staff and program consultants will present lectures on various aspects of fixed and removable prosthodontics and related subjects on a graduate level. RESTOR DENT

174. Nutrition. (1) SS1. Prerequisite: D.D.S., D.M.D. or equivalent degree. Enrollment in a postdoctoral specialty program. Seminar 1 hour.
M. Wilkins
Course will emphasize the dietary requirements for the geriatric prosthodontic patient. A dietary analysis of the student and a prosthetic patient currently under treatment will be required. RESTOR DENT

175B-C. Biomaterials Science. (2-2) W, Sp. Prerequisite: D.D.S. degree. Open to dental residents, postdoctoral and postgraduate students only. Seminar 2 hours.
Jendresen
Course covers biomaterials science as applied to clinical restorative dentistry with emphasis on restorative material selection and use, based on acceptable physical and biological properties. Current research and new restorative materials will be discussed. RESTOR DENT

176. Craniofacial Pain–TMJ Seminar. (0-8) Su, F, W, Sp. Prerequisite: Enrolled postdoctoral specialty students. Fourth-year dental students may take this course as an elective with permission of the instructor. Seminar 2 hours.
McNeill
Allows residents to finish their training with a basic ability to recognize, diagnose, and treat craniofacial pain and TMJ dysfunction in an interdisciplinary environment. The treatment team will include medical and dental specialties. RESTOR DENT

179.01A-B-C-D-E-F-G-H. Removable Prosthodontics Clinic. (0-5) **A, E:** Su. **B, F:** F. **C, G:** W. **D, H:** Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Clinic 15 hours. Two-year course.
T. Curtis
Various types of removable prostheses will be fabricated using different techniques and treatment philosophies. RESTOR DENT

179.02A-B-C-D-E-F-G-H. Fixed Prosthodontics Clinic. (0-5) **A, E:** Su. **B, F:** F. **C, G:** W. **D, H:** Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Clinic 0-15 hours. Two-year course.
Noble
Fixed prosthodontics clinical procedures will be performed using a variety of treatment philosophies and articulating instruments. RESTOR DENT

179.03. Temporomandibular Joint Clinic. (0-4) Su, F, W, Sp. Prerequisite: D.D.S. degree. With consent of instructor, fourth-year students may take this course as an elective. Clinic 3 hours per week.
McNeill
Participation in the Temporomandibular Joint Clinic applying knowledge of history-taking and differential diagnosis and utilizing such diagnostic techniques. RESTOR DENT

180.04. Advanced Operative Theory. (1) F. Prerequisite: Completion of RD 130.04. Lecture 1 hour.
Birtcil
Lectures and televised demonstrations covering quadrant dentistry, washed field technics, complex restorations, analysis of related research, and clinical applications of the various restorative procedures. RESTOR DENT

180.05. Prosthodontic Procedures. (1) W, Sp. Lecture 1 hour.
Brigante
An elective course offering instruction in procedures and materials other than those normally used in the clinic. RESTOR DENT

181. Scientific Writing in Dentistry. (2) W. Prerequisite: Registered dental student in good standing. Limited to 20 students. Conference 2 hours.
White
Students will produce student research journal containing literature reviews and overviews of research done by dental and dental hygiene students. Topics include writing review articles, word processing techniques, communication skills, and the steps involved in the production of a journal. RESTOR DENT

181.02. Advanced Endodontics Concepts. (1) W. Lecture 1 hour.
Goodis
Diagnosis, case selection, and management of pain and infection in endodontically-involved teeth; advanced techniques for treating difficult root canal system anatomy; refinements in obturation of the root canal system. RESTOR DENT

181.03. Fixed Pros Selected Topics. (1) Sp. Enrollment limited. Seminar 1 hour.
Lum
Individual staff members will offer seminar-type instruction on selected topics related to fixed prosthodontics. RESTOR DENT

181.04. Advanced Operative Theory. (1) W. Prerequisite: RD 180.04 (formerly Operative Dentistry 180). Lecture 1 hour.
Birtcil
Continuation of Restorative Dentistry 180.04. RESTOR DENT

182.03. Senior Restorative Elective. (1) W, Sp. Prerequisite: Fourth-year standing; completion of all required third-year courses under Restorative Dentistry. Lecture 1 hour.
Meli
Advanced clinical restorative elective. Lectures describe the restorative general practice. Topics include office layout, laboratory relations, treatment limitations, financial arrangements, scheduling, and treatment failures. RESTOR DENT

182.04. Advanced Operative Theory. (1) Sp. Prerequisite: RD 181.04. Lecture 1 hour.
Birtcil
Continuation of Restorative Dentistry 181.04. Organization of the material is planned in relationship to progress of students enrolling in the 180 series. RESTOR DENT

182.05. Advanced Partial Denture Design. (1) Sp. Prerequisite: Completion of three removable partial dentures. Lecture 1 hour. Seminar 1 hour.
Finzen
Seminar to discuss current concepts of removable partial denture design. The emphasis will be on designing RPDs for routine situations, but more complex designs will also be presented. Students will be assigned casts to design and articles to review. RESTOR DENT

183.05. Advanced Complete Prosthodontics. (1) F. Prerequisite: Fourth-year standing. Seminar 1 hour.
Finzen
Seminar to discuss concepts of complete denture fabrication and maintenance reviewing the rationale for procedures normally used in the clinic, and the selection of the appropriate alternate procedures where indicated. RESTOR DENT

186.04. Restorative Materials Procedures. (1) F, W, Sp. Prerequisite: Open to fourth-year students with the approval of the chairperson of the division. Enrollment limited. Clinic 3 hours.
Birtcil
Techniques and procedures for Class III restorations, using the conservative approach, as well as wedge and matrix. Work will also be done on Class V direct gold restorations. Students learn to use various materials such as fibrous gold, goldent and electroloy. RESTOR DENT

187.04. Adv Clinical Operative Dentistry. (0-4) Sp. Clinic 0-12 hours.
Braly
Advanced instruction in the field of clinical operative dentistry, utilizing procedures such as quadrants and plastics. RESTOR DENT

188.02. Advanced Clinical Endodontics. (0-4) Sp. Prerequisite: Fourth-year standing. Clinic variable.
Barkhordar
Advanced instruction in the field of clinical endodontics. RESTOR DENT

199.01. Biomaterials Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.
Lacy
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. RESTOR DENT

199.02. Endodontics Laboratory Project. (1-5) SS1, F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.
Rosenberg
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. RESTOR DENT

199.03. Fixed Pros Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.
Tueller
A laboratory research project under the direction of a member of the faculty with the approval of the chairperson of the department. RESTOR DENT

199.04. Oper Dent Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.
Braly
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. RESTOR DENT

199.05. Remov Pros Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.
Holmes
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. RESTOR DENT

Sociology

130. Sociocultural Variations in Hlth. (3) § W. Lecture 2 hours. Lab 3 hours.
R. Staples
Course addresses sociocultural variations in health with implications for nursing practice. SOC BEH SC

134. Women, Health, and Healing. (3) § F, W, Sp. Lecture 2 hours. Lab 3 hours.
V. Olesen
Course analyzes sex roles in general and women's roles in particular in health care receipt and delivery, with special emphasis on recruitment problems to health professions, images of women in therapeutic situations, and cross-cultural features of health care. SOC BEH SC

160. Policy & Politics of Health. (3) § Sp. Lecture 2 hours. Lab 3 hours.
C. Harrington
Course addresses the organization of health care and its politics, with emphasis on both United States and international health issues. SOC BEH SC

198. Supervised Study. (1-5) § F, W, Sp.
Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. SOC BEH SC

203. Social Psychology of Chronic Illness. (2-3) § W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Field work 0-3 hours.
G. Becker
Course provides discussion of problems faced by chronically ill persons and their families including crisis management, handling symptoms, managing regimens, social isolation, phases of disease, temporal difficulties, normalization, dying, as well as policy issues confronting health care personnel and the general public. SOC BEH SC

205. Health Professions, Occupations, and Work. (3) § W. Lecture 2 hours. Lab 3 hours.
C. Harrington
Course examines the nature of occupations and professions; their constellation in hospitals and clinics, the medical division of labor, specialties and specialization, professional and occupational ideologies, the sociology of work relationships, careers. SOC BEH SC

207. Sociology of Health & Medicine. (3) § Sp. Seminar 2 hours. Lab 3 hours.
C. Estes
Course introduces the student to classical perspectives in medical sociology and development of a critical perspective in the field to serve as a foundation for independent and advanced study in medical sociology. SOC BEH SC

208. Social Psychol of Hlth & Illness. (3) § F. Prerequisite: Required for graduate students in sociology. Restriction: Doctoral-level students in nursing or sociology. Lecture 2 hours. Lab 3 hours.
V. Olesen
Course covers the relationship of social class, ethnic identification, group membership, family structure, occupation, and life style to health and illness, and therapeutic interaction of lay persons and health professionals. SOC BEH SC

209. Sociology of Power. (2-4) § F, W, Sp. Prerequisite: A graduate-level sociology theory course. Restrictions: Doctoral students only. Lecture 2-4 hours.
C. Estes
Course surveys the classical and contemporary sociological issues in theoretical and empirical work on power; explores underlying assumptions and paradigms emerging and reflecting a sociopolitical milieu. The student will analyze literature and debates on power structure research and theory. SOC BEH SC

212A. Sociological Theory. (3) § W. Lecture 2 hours. Field work 3 hours.
C. Estes
Course examines and evaluates classical and recent contributions to sociological theory. The main objective is the generation of a critical capacity with respect to received theory in both its formal and substantive varieties. SOC BEH SC

212B. Sociological Theory. (3) § Sp. Lecture 2 hours. Field work 3 hours. Required for graduate students in Sociology.
A. Clarke
Course consists of readings and discussions on interactionist theory in sociology, with emphasis on the origins and development of the Chicago School of Sociology, as well as an examination of the link between philosophy of pragmatism and interactionism. SOC BEH SC

212C. Sociological Theory: Contemporary. (4) § Sp. Prerequisite: S212A and S212B or consent of instructor. Lecture 2 hours. Lab 6 hours.
C. Estes
Course examines and evaluates contemporary contributions to sociological theory. The main objective is the generation of a critical capacity with respect to received theory in both its formal and substantive varieties. SOC BEH SC

214A. Field Research. (5) § F, Sp. Prerequisite: Doctoral level. Lecture 2 hours. Field work 9 hours.
L. Schatzman, V. Olesen, A. Clarke
Course offers sociological perspectives on the dimensions and properties of research in natural, social settings. Focus is upon developing skills in negotiating entree, watching, listening, and recording of data. Emphasis is upon developing conceptual schemata in preparation for analysis. SOC BEH SC

214B. Qualitative Analysis. (5) § W. Prerequisite: Doctoral level; Sociology 214A. Lecture 2 hours. Field work 9 hours.
L. Schatzman, V. Olesen, A. Clarke
Course examines modes of analysis applicable to qualitative data; emphasis on dimensions and properties exhibited in student-presented data. SOC BEH SC

214C. Qualitative Analysis. (3) § F, W, Sp. Prerequisite: Doctoral level; Sociology 214A and 214B. Lecture 2 hours. Lab 3 hours.
Staff
Course provides qualitative analysis and the development of substantive and formal sociological theory. Emphasis is on student-presented data and their conceptualization. SOC BEH SC

215. Organizational Research. (2-4) § F, W, Sp. Prerequisite: Sociology 216 encouraged but not required and consent of instructor. Lab 3-9 hours. Conference 1 hour.
E. Lurie
Course will place students in organizations to provide opportunities to conduct research; apply and develop organizational theory; develop applied sociological, practical, and administrative skills and experience for students; and make sociologists attractive and salient to organizations outside academic settings. SOC BEH SC

216. Comp Orgs: National & Intl Perspec. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
Staff
Course is a comparative review of contributions to the sociology of formal organizations of health care. A variety of organizational forms will be considered with special emphasis on national and international health care comparisons. SOC BEH SC

217. Future of the Family Seminar. (3) § F, W, Sp. Lecture 2 hours. Lab 3 hours.
R. Staples
Course explores changing dating, sexual, sex-role, marital, and familial patterns in the United States. Discussion of futuristic models of family life as affected by sociocultural forces. Special emphasis given to changing sex-role behavior as affecting male-female relationships. SOC BEH SC

218. Adv Topics in the Socio-Analysis of Aging. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours.
C. Estes
Course is designed for doctoral students investigating advanced research issues preparatory to qualifying examinations. Topics to be analyzed will vary each year, but will be focused upon a specific area. Laboratory assignments are for research activities on special topics in the area of aging. SOC BEH SC

219. Social Policy & Aging. (2-4) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours.
C. Estes
Course will provide a critical analysis of major social, economic and political issues of growing old in America; will examine social policy in the public and private sectors including health, income, and social services; and consider prospects for social change and political movements. SOC BEH SC

220. Sociology Seminar. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Required for graduate students in Sociology. Seminar 2 hours. Lab 0-6 hours.
C. Estes
Doctoral students discuss methods and problems in current research. Course may be repeated for credit. SOC BEH SC

221A-B-C. Qualifying Examinations. (4-4-4) § **A:** F, W, Sp. **B:** F, W, Sp. **C:** F, W, Sp. Prerequisite: Preparation for qualifying examinations. Open to graduate students in Sociology only.
Staff
Qualifying examinations for graduate students in sociology are given in three areas: sociological theory, medical sociology, and special interest. The course will provide for preparation in each area. SOC BEH SC

223. Perspectives on Public Policy. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
A. Benjamin
Course offers systematic overview of health policy in American government—its scope, dynamics, and conceptual and practical dilemmas. Students will become acquainted with major issues involved in formulating, financing, implementing, and assessing patterns of decision (i.e., policy) established by government. SOC BEH SC

225. Policy & Hlth Care Institutions. (3) § F, W, Sp. Prerequisite: N287A or consent of instructor. Lecture 2 hours. Lab 3 hours.
R. Newcomer
Course describes and analyzes approaches to understanding the development of health policy and relationships between health policy and decision making within health care institutions. SOC BEH SCI

226. Families of the Third World. (3) § F, W. Lecture 2 hours. Lab 3 hours.
R. Staples
Course examines family structures and dynamics among Third World peoples. Families to be discussed include Africans and Afro-Americans, Asians, Native Americans, and Latinos. Emphasis is on continuities in the family life of these groups in their native land and in the United States. SOC BEH SCI

229. Sociology of Stress. (3) § F, W, Sp. Prerequisite: Consent of instructor. Restriction: Doctoral students only. Lecture 2 hours. Lab 3 hours.
L. Pearlin
Course explores current theories and research dealing with sources of stress and coping mechanisms. Course examines the conditions and experiences that act as stressors, coping behaviors, the nature and functions of social support systems, and the health consequences of stress. SOC BEH SC

230. Socio-cultural Issues in AIDS. (3) § W, Sp. Lecture 2 hours. Lab 3 hours.
C. Harrington
Course examines the history and social psychology of AIDS in relation to health, illness, disease, and death. Includes demographic trends, the cost burden, and special problems of minorities, women, and caregivers, along with policy issues. SOC BEH SC

231. Social Psychology of Aging. (3) § F. Prerequisite: Consent of instructor. Restriction: Doctoral students only. Lecture 2 hours. Lab 3 hours.
L. Pearlin
Course examines the socio-psychological aspects of aging and life cycle changes. Course also examines the socialization of an aged role, norms for older people, and special problems of aging individuals. SOC BEH SC

232. Adv Problems in Soc Psychology. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Field work 0-6 hours.
V. Olesen
An advanced seminar dealing with theoretical and conceptual problems in various areas of social psychology. Recent developments in theory and concept will be reviewed. SOC BEH SC

233. Sociology of Aging. (3) § W, Sp. Lecture 2 hours. Lab 3 hours.
P. Fox
Course reviews theories of aging including a review of theories of aging, current and historical trends in aging, factors related to aging, effects of aging on individuals and families, and formal and informal service systems for an aging population. SOC BEH SC

234. Health & Aging. (2-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-3 hours.
Becker
Course examines the health status of the aged in the United States related to biological, behavioral, sociocultural, and environmental factors. Social, cultural, and economic factors affecting organization, financing, and delivery of health care to the aging population will be examined. SOC BEH SC

235. Health Factors in Marriage & Family Behavior. (3) § F, W, Sp. Prerequisite: Consent of instructor. Graduate standing. Lecture 2 hours. Lab 3 hours.
R. Staples
Course will explore how marital and family behavior generates mental and physical health problems. Topics are family violence, child abuse, sexually transmitted diseases, suicide, psychological problems, and the relationship of marital status to morbidity and mortality. SOC BEH SC

236. Race/Class Factors in Hlth Care Delivery. (3) § W. Prerequisite: Consent of instructor. Graduate standing. Lecture 2 hours. Lab 3 hours.
R. Staples
Course examines racial and class membership impact on access to health care services, variations in the quality of those services, and how professional and subprofessional roles in the health care system are organized along racial and class lines. SOC BEH SC

237. History of Sociological Thought. (3) § F, W. Restriction: Doctoral-level students. Lecture 2 hours. Field work 3 hours.
Schatzman
Graduate introduction to history of sociological thought. Provides perspective and vocabulary for examining major schools of thought which constitute sociological tradition. Discussion of conceptual paradigms and their relationship to theory will provide understanding of sociological work. SOC BEH SC

238. Advanced Studies in Women's Health. (2-4) § F, W, Sp. Seminar 2 hours. Lab 0-6 hours.
V. Olesen
Course offers students opportunity to work with both theoretical and research questions on the subject of women's participation in health and healing systems. Critical questions on appropriate method, relationship to theory, and articulation of questions will be considered. SOC BEH SC

239. Evaluation Research Methods. (3) § F, W, Sp. Prerequisite: Sociology 214A and 214B. Non-doctoral students may enroll upon approval of instructor. Lecture 2 hours. Lab 3 hours.
R. Newcomer, L. Schatzman
Course analyzes field work as evaluation method, as applied to health care settings and programs, contrasting this approach with quantitative methods predicated on analysis of outcomes. Conduct of such evaluative research, and relationship with audiences, such as policymakers, analyzed. SOC BEH SC

240. Older Women and Their Health. (2-4) § F. Seminar 2 hours. Optional project for additional units.
V. Olesen, J. Zones
Course analyzes postmenopausal women's changing social roles and the interaction of actual and perceived role with health. Topics include demographic issues, economic trends, individual social and health status, policy implications for individuals and society. SOC BEH SC

241. Women, Work & Health. (2-4) § F. Seminar 2 hours. Optional project for additional units.
V. Olesen
How sociocultural systems place women in work roles, the implications for their health, their part in illness prevention and care of the sick. Analyzes "hidden careers," work and health in developing societies, relationship between work and mobidity-mortality patterns. SOC BEH SC

242. Women's Health: Res. (2-4) § Sp. Prerequisite: One or more women's health courses and one survey course in social research methods or social epidemiology. Seminar 2 hours. Optional project for additional units.
V. Olesen, J.Zones
An advanced survey of quantitative research methods in analysis of women's health issues. Will focus on data sources, design types, evaluation methods, data analysis, and proposal and report writing. Exploration of current research controversies. SOC BEH SC

243. Qualitative Research in Women's Health. (2-4) § W. Prerequisite: One or more women's health courses and one course in qualitative methods. Doctoral students only. Seminar 2 hours. Optional project for additional units.
V. Olesen
An advanced survey of qualitative research methods in analysis of women's participation in health and healing systems. Will review epistemological assumptions, analytic strategies, design and modes to assure credibility, plausibility. Will focus on data sources and analysis of data. SOC BEH SC

245. Gender and Science. (3) § Sp. Seminar 3 hours.
A. Clarke
Course is a study of historical and contemporary issues in the social construction of biological and

medical sciences, epistemological problems, and feminist perspectives. Focus is on impact of gender on scientific work and includes scientific constructions of gender and women's careers in science. SOC BEH SC

247. Policy Issues & Political Processes. (3) § Sp. Prerequisite: S160 or S219 or equivalent and/or consent of instructor. Lecture 2 hours. Field work 3 hours.
C. Harrington
Course analyzes issues and trends in legislation and politics of health and examines health professionals' roles in developing strategies to influence legislative and political processes that affect planning and delivery of care. SOC BEH SC

248. Group Independent Study. (1-4) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-4 hours.
Staff
Groups of two or more students select special problems to investigate on a collaborative basis. These studies may be conducted through readings, the collection or analysis of empirical data, or the development of conceptual analysis or of methodologies. SOC BEH SC

249. Special Studies. (1-8) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Students select special problems to investigate on an individual or collaborative basis. These studies may be conducted through readings, the collection or analysis of empirical data, or the development of conceptual analysis or of methodologies. SOC BEH SC

251. Women's Health: Socio-Cultural. (2-4) § Sp. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours.
V. Olesen, E. Lewin
Exploration of relationship between culture and health for women in non-Western societies. Effects of modernization and migration on utilization of traditional and cosmopolitan health care and on women's roles as providers will be discussed, and contemporary controversies will be analyzed. SOC BEH SC

252. Women's Health: Socio-Historical. (2-4) § W. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours.
A. Clarke
Sociological analysis of women's health status, roles as providers and patients, and the development of medical ideas about women from a historical perspective. Emphasis on 19th- and 20th-century developments in industrialized societies. SOC BEH SC

253. Sociology of Reproduction. (2-4) § Sp in alternate years. Offered 1990-91. Lab 0-6 hours. Seminar 2 hours.
A. Clarke
Course focuses on recent theoretical and substantive developments concerning female sexuality, birth control, population control, abortion, reproductive technologies, and pregnancy/childbirth. Examines race and class relations and concerns of the state, science, and medicine. SOC BEH SC

254. Women's Health: Policy Issues. (2-4) § W. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours.
V. Olesen
Consideration of factors in the emergence of issues in women's health and related policy. Perspectives on women as policymakers and the implementation of policy on women's health, participation in care and healing systems and access to training. SOC BEH SC

255. Environment and Health. (2-3) § F in alternate years. Offered 1990-91. Lab 0-3 hours. Seminar 2 hours.
L. Grant
Course analyzes social, psychological, and biological perspectives about environmental influences on health. Reviews institutionalization, housing, and potential sources of environmental stress and their effects on adaptation across the life cycle. SOC BEH SC

256. Introduction to Survey Research. (3) § Sp. Prerequisite: Biostatistics 183 and 185A-B or equivalent. Restriction: Doctoral level; non-doctoral students may enroll upon consent of instructor. Lecture 2 hours. Lab 3 hours.
R. Newcomer
Course introduces sample theory, sample development, and methods of survey research. Course provides rudimentary skills for those conducting their own research and large field surveys. SOC BEH SC

257. Minority Health and Aging. (2-3) § F, Sp (offered once yearly). Lecture 2 hours. Field work 0-3 hours.
V. LaBrie
Course explores the diversity of racial and ethnic variation and examines the health and aging experience of minority elderly within the context of families, communities, and the nation. SOC BEH SC

262. Health Care Economics. (3) § F. Lecture 2 hours. Lab 3 hours.
C. Harrington
Course is a critical analysis of economic theories and public and private financing of health care. Focuses on the effects of financing and reimbursement on health care delivery systems, professional practice, and individuals and families. SOC BEH SC

266. Leadership in Long-Term Care. (3) § W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Lab 3 hours.
C. Harrington
Seminar examines leadership and administration in long-term care settings. Focuses on organization, budgeting, program planning, management, educational programs, and service delivery with emphasis on creative approaches and testing new models and theories. SOC BEH SC

270A. Quantitative Methods I. (3) § F. Restriction: Doctoral students in Sociology or consent of instructor. Lecture 2 hours. Lab 3 hours.
R. Newcomer
Course examines quantitative research methods used in sociological inquiry. The focus is on scientific models, problem formulation, use of theoretical frameworks, levels of analysis, settings and strategies, specification of constructs, and selection of indices. SOC BEH SC

270B. Quantitative Methods II. (3) § W. Prerequisite: S270A (Quantitative Methods I). Restriction: Doctoral students in Sociology or consent of instructor. Lecture 2 hours. Lab 3 hours.
R. Newcomer
Course examines quantitative research methods including issues of sampling, reliability and validity, data collection, analysis, and inference. The course examines experimental, quasi-experimental, ex-post-facto, and correlational research, as well as survey and evaluation methods. SOC BEH SC

270C. Research Methods Seminar. (3) § Sp. Prerequisite: S270A and S270B (Quantitative Methods in Sociological Inquiry I & II). Restriction: Doctoral students in Sociology or consent of instructor. Seminar 3 hours.
Staff
Advanced seminar in research methods. Students will be able to appreciate the complexity of issues and challenge of integrating qualitative and quantitative research traditions through discussion and exercises which formulate alternate research approaches. SOC BEH SC

271. Professional Issues Seminar. (2) § F, W, Sp. Restriction: Doctoral students in Sociology or consent of instructor. Seminar 2 hours.
Staff
Seminar addresses professional and career issues for sociologists, including teaching, research, writing for publication, and presentation of papers at professional meetings. Focuses on career and educational planning, resume development, internships, mentorships, and job interviews. SOC BEH SC

272. Dissertation Research Seminar. (3) § F, W, Sp. Restriction: Doctoral students in Sociology or consent of instructor. Seminar 2 hours. Lab 3 hours.
Staff
Course addresses logic of research design and execution for students. Clarification of research question, delineation of work plan, and orientation to relevant theoretical literature or empirical data available. SOC BEH SC

273. Demography of Health and Aging. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
M. LaPlante
Course provides an overview of demographic studies of morbidity, disability, and mortality. Sociodemographic variations and changes over time in health and mortality profiles of populations and the relationship of morbidity, disability, and mortality trends will be covered. SOC BEH SC

274. Sociology of Human Sexual Behavior. (3) § F, W, Sp. Restriction: Doctoral students in Sociology or consent of instructor. Seminar 2 hours. Lab 3 hours.
R. Staples
Course examines contemporary sexual problems from a sociological perspective focusing on issues and their relationship to social structure. Topics will include sexually transmitted diseases, teenage pregnancy, sexual violence, sexual harassment, and incest. SOC BEH SC

275. Mental Illness and the Elderly. (2-3) § W, Sp. Prerequisite: Consent of instructors. Lab 3 hours. Seminar 2 hours.
E. Lurie
Course considers current research, policy, and funding issues with regard to the mentally ill aged, within the context of the epidemiology, treatment options, utilization patterns, formal and informal treatment systems, and special issues of the mentally ill elderly. SOC BEH SC

276. Multidisciplinary Geriatric Assessment. (1-3) § F, W, Sp. Lab 3-9 hours.
G. Becker
Course provides clinical experience in multidisciplinary assessment for sociologists, nurses, physicians, and other clinicians. Course involves application of social, psychological, economic, and other factors in assessment. SOC BEH SC

277. Sociology of Disability. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
M. LaPlante
Course covers sociological models and theories of disability and handicap. Areas to be covered include definitions, utility of role theory, models of identification and causation, and sociological perspectives on disability policy. SOC BEH SC

278. Sociology of Alcohol and Drugs. (2-3) § F in alternate years. Offered 1990-91. Lab 0-3 hours. Seminar 2 hours.
K. Fillmore
Course examines alcohol and drug use from multiple theoretical perspectives in various historical and cultural contexts. Examines the distribution of alcohol and drug use across and within societies and various policies and their consequences for the control and management. SOC BEH SC

279. Nutrition and Chronic Illness. (2-3) § F in alternate years. Offered 1990-91. Lab 0-3 hours. Seminar 2 hours.
B. Johnstone
Course introduces social and biological perspectives on nutrition and chronic illness. Examines interactions between nutritional factors, chronic illness, the

aging process, alcohol and substance abuse, and other such factors. Emphasizes a critique of empirical research in the area. SOC BEH SC

280. Meta-Analysis in Health Research. (3) § F in alternate years. Offered 1990-91. Prerequisite: Basic research statistics and Research Methods (S270A-B or N295). Lab 3 hours. Seminar 2 hours.
B. Johnstone
Course introduces meta-analysis techniques and applications in health research, including research design, sampling and data collection, and analytical techniques and software. Uses examples from drug and alcohol studies, and other health care evaluation studies. SOC BEH SC

281. Justice, Equity, and Health Care. (2-3) § F in alternate years. Offered 1990-91. Lab 0-3 hours. Seminar 2 hours.
E. Hartka
Course examines how health care, a scarce resource, is divided among members of society, including theories from philosophy, medical ethics, economics, political science, sociology, and psychology. Examines justice and equity issues for different groups and among different health policies. SOC BEH SC

282. Sociology of Science/Technology. (2-4) § W in alternate years. Offered 1990-91. Lab 0-6 hours. Seminar 2 hours.
A. Clarke
Course examines early functionalist and Marxist theories, Kuhn's work, social constructionist, ethnomethodolical, interactionist, neo-functionalist, critical, and neo-Marxist perspectives. Focuses on laboratory, controversy, technological, and representational studies and organization and funding. Links history and philosophy. SOC BEH SC

283. Selected Topics/Health Economics. (2-3) § W. Prerequisite: S262 (Health Care Economics). Lab 0-3 hours. Seminar 2 hours.
R. Miller
Course examines selected topics in health care economics, with attention to basic economic theory of supply and demand for health care services and health insurance. Includes national health insurance proposals and the Canadian health care system. SOC BEH SC

284. Research on AIDS/HIV Illnesses. (3) § Sp in alternate years. Offered 1990-91. Prerequisite: S230 (Socio-cultural Issues in AIDS). Lab 3 hours. Seminar 2 hours.
A. E. Benjamin, A. Clarke, V. Olesen
Course examines research in social and behavioral aspects of AIDS/HIV related illnesses and critiques methods, data collection, and analyses aspects of the research as well as the theoretical bases for the work. SOC BEH SC

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

Speech and Hearing Science

201. Basic Hearing Mechanisms. (4) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 1 hour. Offered in alternate years. Not offered 1990-91.
Staff
Lectures and laboratory demonstrations reviewing surgical and comparative anatomy of the ear; cochlear development and mechanics; hair cell transduction; comparative physiology of hearing; bases of hearing loss; and strategies for objective evaluation of inner ear function in animals and man. OTOLARYN

202. Auditory Coding. (4) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 1 hour. Offered in alternate years. Not offered 1990-91.
Staff
Lectures and laboratory demonstrations covering such topics as physiology and psychoacoustics of sound and speech coding; cochlear prostheses; central auditory system organization; physiology of binaural hearing in avians and mammals; and evaluation of auditory brainstem function in animals and man. OTOLARYN

203. Forebrain Mechanisms. (4) § Prerequisite: Consent of instructor. Lecture 3 hours. Lab 1 hour. Offered in alternate years. Not offered 1990-91.
Staff
Topics include forebrain representation of complex spectra (including speech) and of sound localization (including echolocation in bats and whales); cognitive development related to hearing; auditory consequences of such pathologies as brain lesions and autism; and objective assessment of forebrain mechanisms. OTOLARYN

204. Speech Production and Perception. (4) §F. Lab 2 hours. Seminar 3 hours.
Turner
This course is part of a two-year core curriculum covering the communicative neurosciences. It is the first course in the sequence which considers speech and language. It will cover basic acoustics, acoustic phonetics, the anatomy and physiology of speech production, and theories of speech perception. OTOLARYN

205. Language Science. (3) § Sp. Lecture 2.5 hours. Lab 2 hours. Offered 1990-91
Turner
This is the final course in a 2-year sequence (201, 202, 203, 205). The objective of the core curriculum is to provide students with a fundamental knowledge of the speech and hearing sciences. This course covers basic language science with emphasis on the cortical processing of language. OTOLARYN

210. Fundmntl of Auditory Neurobiol. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours.
Schreiner
Reading and critical discussion of selected original research papers on the anatomy and physiology of the auditory system. Each level of the auditory nervous system from the periphery to the cortex will be considered in turn. OTOLARYN

211. Sound and Sound Analysis. (4) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 2 hours. Offered in alternate years. Not offered 1990-91.
Staff
Review of the physics of sound as it applies to study of speech and hearing. Theoretical and practical approaches to the analysis of signals and the fundamentals of system analysis. Practical application of acoustic research equipment. OTOLARYN

215. Laboratory Rotation. (1-4) § Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 3-12 hours.
Turner
For students who arrange a rotation in the research laboratory of a faculty member. Students will participate in an ongoing research project and review relevant literature. OTOLARYN

220. Speech and Hearing Science. (1) § F, W, Sp. Seminar 1 hour.
Staff
This seminar series will consist of weekly presentations by the faculty, students, research personnel in the department, and visiting scientists. Topics will cover the range of speech and hearing sciences, including anatomy, physiology, psychophysics, speech, clinical diagnosis, and rehabilitation. OTOLARYN

221. Electrophysiology & Audiology. (4) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 3 hours.
Gardi and Staff
Review of the development of electrophysiological approaches to studying auditory functions with particular emphasis on auditory-evoked response measurement. Lectures and laboratory exercises will stress equipment design and calibration, data collection, analysis, and interpretation. OTOLARYN

222. Auditory Psychophys & Physiol. (3) § Sp. Lecture 3 hours.
Staff
A coordinated coverage of basic auditory function. The physiology of the peripheral auditory system and basic perceptual correlates. Physics of sound, cochlear mechanics and microphonics, VIII nerve physiology, thresholds, masking, pitch, loudness, temporal adaptation, frequency analysis, binaural perception, and processing are included. OTOLARYN

224. Animal Psychophysics. (3) § Sp. Seminar 3 hours.
Jenkins
Reading and discussion of selected papers on modern behavioral methods for obtaining information on the sensory capacities of animals. Students will have access to equipment and a microcomputer so that one or more behavioral methods can be implemented. OTOLARYN

225. Inner Ear Form and Function. (3) § F, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.
Leake
This course will consider the gross morphology, histology, ultrastructure and function of the mammalian cochlea and vestibular sensory organs. Instruction will include lectures, demonstrations, dissections and student presentations. OTOLARYN

247. Special Studies. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Directed reading and laboratory work in the auditory process and its disorders. OTOLARYN

249. Independent Study. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Students and instructor develop jointly a study plan involving tutorials, reading, and laboratory work. Students engage in intensive exploration of specific topics related to the anatomic, physiologic, psychophysical, and behavioral aspects of the speech and hearing sciences. OTOLARYN

250. Research. (1-8) § F, W, Sp. Prerequisite: Consent of instructor.
Staff
Students participate in ongoing research or initiate independent research project under guidance of supervising instructor. Assignments include literature review, design of research, execution of research, data reduction and analysis, and reporting. OTOLARYN

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

Surgery

110. Clinical Clerkship in General Surgery. (1.5 per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences; third-year standing.
Goodson
A basic course in surgery designed to cover those aspects of surgery which should be familiar to all practitioners. Students are assigned to work with ward teams and also to participate in teaching seminars. SURGERY

111. Advanced Surgery Core Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110.
Reilly
Students are senior clerks on wards, in operating rooms at UC, SFGH, and VA. Rounds, seminars focus on physiological approach to surgery. Clinical clerkships in surgical specialties may be taken with prior approval of specialty department and Department of Surgery. SURGERY

140.01. Advanced Surgery Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111.
Reilly
Senior clinical clerks participate in clinic, ward, and operating room with direct involvement in postoperative and preoperative care at UC, SFGH, VA, C, RDMC, VMC and K. SURGERY

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111.
Debas
Clinical clerkship in approved hospitals in other universities by special arrangement and approval of the chairperson of the department and the dean. SURGERY

140.03. General Surgery–PMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.
Russell
Students serve as acting interns on general surgical service; participate in preoperative assessment, interoperative management and postoperative care of patients; participate in outpatient clinics as well as selected physicians' offices; participate in daily ward rounds and teaching conferences. SURGERY

140.04. Vascular Surgery Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, Surgery 110 and 111.
Krupski
Students serve as acting interns on the vascular surgery team, participating in preoperative, intraoperative, and postoperative management of patients, as well as in clinics, rounds, and conferences. SURGERY

140.05. Operable Heart Disease. (1.5 per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111.
Turley
Ward rounds and conferences on patients with operable, congenital, or acquired heart disease. Details of selection, differential diagnosis, and results of surgery are discussed. SURGERY

140.06. Emergency Medicine–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Surgery 110 and 111.
Neighbor
Students care for patients in the Emergency Department at SFGH as acting interns, and care for all medical and surgical problems. The rotation focuses on wound-care techniques (including suturing), didactic conferences, and bedside one-to-one instruction by senior residents and faculty. SURGERY

140.07. Shock & Trauma Research. (1.5 per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111.
F. Lewis
Course involves clinical and laboratory investigation and a detailed study of specific patients with trauma and shock. SURGERY

140.08. General Surgery–C. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 & Medicine 110.
V. Richards
Students work as interns on Surgical Service; they evaluate general surgical patients preoperatively; work with patients in operating room; assume graduated, increasing responsibility in postoperative management. Rounds and conferences enhance clinical experience; interaction with staff in patient care emphasized. SURGERY

140.09. Trauma Surgery–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111 and consent of instructor.
F. Lewis
Clinical clerkship in the Trauma Service of the Department of Surgery at SFGH. The student will work at intern-clerk level as an integral part of the service. SURGERY

140.10. Cardiothoracic Surgery. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 & 111.
Verrier
As an integral member of the cardiothoracic team, the student directly and actively shares in preoperative evaluation, operative procedures, and postoperative care. Cardiac and thoracic conferences and daily ward rounds provide the didactic teaching. SURGERY

140.11. Burn Care–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.
J. Horn
Clinical rotation on a large Burn Center Service. Pathophysiology of thermal injury including pulmonary aspects will be stressed. Students act as integral members of the team and participate directly in patient care. SURGERY

140.12. Adv Plastic & Recons Surgery. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 111.
Mathes
Participation in clinical activities of plastic surgery. Students work on patients and take part in operative procedures, as well as manage the postoperative patient. Exposure to patients with general reconstructive problems; trauma to head and neck, hand surgery, and congenital anomalies. SURGERY

140.13. General Surgery–VAF. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111.
O'Hara
Students receive broad clinical experience in general surgery at VAF and with practicing surgeons in selected community settings in the central San Joaquin Valley. Balance between VAF and community assignments is individually arranged according to students' interests. SURGERY

140.14. Surgical Intensive Care Clerkship–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. Fourth-year students only.
Parks
Clerkship offers an "organ systems" approach to critical surgical illness with experience in invasive and noninvasive monitoring and appropriate therapeutic interventions. Course is aimed at providing patient management experience and familiarity with basic science concepts and literature upon which surgical intensive care is based. SURGERY

140.15. Burn Center Clerkship–VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. Fourth-year students only.
Parks
Presents a clinical spectrum in critical-care medicine: burn wound infection control, resuscitative management, hemodynamic monitoring, with emphasis on appropriate nutritional and metabolic support. Also stressed are psychological and emotional needs of patients. Students participate as full members of the Burn Team. SURGERY

140.16. Nutritional Support Service–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.
Hickey, Weaver
Students will be instructed in the formulation and administration of parenteral and enteral feedings; the insertion of subclavian catheters; the management of metabolic/nutritional problems. Students will perform nutritional assignments and activity, and participate in daily rounds at San Francisco General Hospital. SURGERY

140.17. Pediatric Surgery. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. Clinic 40.
deLorimier, Harrison
The student works as acting intern on a busy pediatric surgical service assisting in pre- and postoperative management and in the operation. An interesting, wide variety of problems is encountered. SURGERY

140.18. Liver Transplantation. (1.5 per week) S, F, W, Sp. Prerequisite: Medicine 110, Surgery 110.
Ascher and Staff
Students will participate in evaluation of potential liver recipient (including HLA-typing, crossmatch, immune monitoring), observe the liver transplant procedure, participate in postoperative care (including immunosuppresive management and mechanisms of graft rejection). Student will attend pertinent conferences, clinics, and daily rounds. SURGERY

140.19. Advanced Clinical Surgery–VMC. (1.5) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. 4th-year standing.
Parks, Gladen
Senior clerkship responsibilities include participation as member of busy patient care team, with emphasis on pre- and postoperative care, supervised clinic and operating room assignments, and participation in departmental conferences. The aim is to provide exposure to a spectrum of elective and emergency surgical problems. SURGERY

150.01. Research in Surgery. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.
Hunt
Opportunities for research in one of the departmental laboratories by arrangement with the instructor. SURGERY

160.05. Advanced Surgery Reading. (2) F, Sp.
F. Lewis
A weekly seminar where previously assigned papers are discussed and critiqued. Papers representing the classical and current concepts in general surgery are covered. SURGERY

160.06. Total Parenteral Nutrition. (5) Su, F, W, Sp. Prerequisite: Surgery 110 and consent of instructor. Lecture 3 hours. Lab 6 hours.
Hickey
Course emphasizes nutritional and metabolic requirements of injured, ill, and malnourished patients. Clinical rotation involves methods of preparation, administration, and assessment of patients receiving calorie protein or amino acid support as part of specific therapy. SURGERY

198. Supervised Study. (1-5) F, W, Sp. Prerequisite: Consent of instructor.
Debas and Staff
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. SURGERY

199. Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor.
Debas and Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. SURGERY

400. General Surgery Staff Conf. (1.5) F, W, Sp. UC **Debas,** SFGH **Lewis,** VA **L. Way**
Conferences include presentation of case studies with reference to the literature, case records, laboratory tests, and special studies. Faculty and occasional guest lecturers discuss surgical problems. Death and complications are reviewed weekly. SURGERY

402. General Surgery Pathology Sem. (1) F, W, Sp. Interns and residents.
McKerrow

Seminars include case reports and demonstrations of the currently available gross and microscopic surgical pathological material from the operating rooms and pathology laboratories. SURGERY

403. General Surgery Seminar. (2) Su, F, W, Sp. Interns and residents.
RDMC **Heer,** SFGH **Lewis,** UC **Debas,** VA **L. Way**
Seminar is held in the surgical wards with discussion of current problems concerning the diagnosis and management of general surgical patients. SURGERY

450. Clinical Surgery. (1.5 per week) Su, F, W, Sp.
UC **Debas,** SFGH **Lewis,** VA **L. Way,** RDMC **Heer,** C **V. Richards,** PMC **Russell**
Residents, 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. Senior residents have certain additional administrative, teaching, and clinical responsibilities. SURGERY

452. Experimental Surgery Laboratory. (1.5 per week) Su, F, W, Sp. Restriction: Surgery 450 and 452 may not be taken concurrently.
Debas and Staff
Course includes experimental investigations of general surgical problems and the development of technical and laboratory methods to be applied in general surgery. SURGERY

453. Clinical Experimental Surgery. (10) Su, F, W, Sp.
Debas
Assistant residents in off-campus hospitals approved by the chairperson of the department and the dean. Course includes clinical and experimental investigations of general surgical problems and the development of technical and laboratory methods to be applied in surgery. SURGERY

490. Clinical Surgery–SFGH. (1.5 per week) Su, F, W, Sp.
Lewis
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, hand and plastic surgery, and surgery of maxillofacial injuries. SURGERY

495. Clinical Surgery. (1.5 per week) Su, F, W, Sp.
Debas
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. SURGERY

Teaching Methodology

170. Educational Technology. (1) F, W, Sp. Prerequisite: 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. GEN DENT

176. Practice Teaching. (1) F, W, Sp. Prerequisite: D.D.S. degree. Clinic 3 hours.
Staff
Practical teaching experience in selected courses under the supervision of members of the staff. GEN DENT

186.01A-B-C. Practice Teaching. (0-3, 0-3, 0-3) F, W, Sp. Lab 3 hours.
Staff
Practical teaching experience in selected courses under the supervision of senior members of the staff. GEN DENT

Urology

Core Clerkship–Surgery 110 includes clinical clerkships in the outpatient clinics and hospitals, assistance at operations, and participation in residents' seminars.

140.01. Advanced Urology Clerkship–UC. (1.5 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. UROLOGY

140.02. Off-Campus Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.
Tanagho
Clinical clerkship in off-campus hospitals approved by the chairperson of the department and the dean. UROLOGY

140.03. Advanced Urology Clerkship–VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.
R. D. Williams
Students work as interns on the Urology Service at VA. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

140.04. Advanced Urology Clerkship–SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.
McAninch
Students work as interns on the Urology Service at SFGH. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

170.01. Fundamentals of Urology. (2) F, W, Sp. Prerequisite: Consent of instructor.
Tanagho and Staff
Seminar and library research. UROLOGY

199. Laboratory Project. (1-5) F, W, Sp. Prerequisite: Consent of instructor.
Tanagho and Staff
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. UROLOGY

400. Urology Seminar. (1.5) Su, F, W, Sp.
Tanagho
Seminar includes study of the basic sciences and urologic roentgenology with members of the attending staff. UROLOGY

401. Experimental Laboratory. (2) Su, F, W, Sp.
Tanagho
Course includes experimental investigation in urologic problems. UROLOGY

402. Urologic Clinical Seminar. (2) Su, F, W, Sp.
Tanagho
Seminar includes discussion of diagnosis and treatment of patients in the urology wards with the attending staff. UROLOGY

403. General Urologic Staff Conf. (.5) Su, F, W, Sp.
Tanagho
Conference includes presentation and discussion of urologic problems by the house staff and faculty. UROLOGY

450. Clinical Urology. (1.5 per week) Su, F, W, Sp.
UC **Tanagho,** SFGH **McAninch,** VA **R.D. Williams**
First-year residents care for patients in the wards and outpatient clinics. Second- and third-year residents, under supervision, perform instrumental examinations on clinic patients. Senior residents, under supervision, perform instrumental and surgical procedures and have administrative, clinical, and teaching responsibilities. UROLOGY

490. Clinical Urology–SFGH. (1.5 per week) Su, F, W, Sp.
McAninch
Interns rotate through urological wards. Under the direction of the attending staff they are responsible for the care of patients, including history-taking, physical examination, laboratory tests, and consultation. UROLOGY