

UCSF

General Catalog 91/92

UNIVERSITY OF CALIFORNIA





## 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. 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.

**Course Description.** Course information is arranged in three paragraphs. The first paragraph includes course number, title, units (in parentheses), session offered, prerequisite, format and breakdown of hours per week. The second paragraph names the instructor(s) in charge. The third 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 meaning of the second (tens) and first (units) digits varies among the schools. A detailed explanation of course numbering 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 R S

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

### CC

Crippled Children's Hospital, Phoenix

### CCP

Center for Training in Community Psychiatry, Berkeley

### CHF

Valley Children's Hospital, Visalia

### CHMC

Children's Hospital Medical Center of Northern California, Oakland

### CHS

Community Hospital of Sonoma County, Santa Rosa

### CM

Ernest V. Cowell Memorial Hospital, Berkeley

### CSP

Center for Special Problems, San Francisco

### DCH

Sutter-Davis Hospital, Davis

### DMC

Davies Medical Center-Franklin Hospital, San Francisco

### FCH

Fresno Community Hospital and Medical Center, Fresno

### FR

French Hospital Medical Center, San Francisco

### GS

Good Samaritan Hospital of Santa Clara Valley, San Jose

### H

Highland General Hospital, Oakland

### IMBB

Irwin Memorial Blood Bank, San Francisco

### K

Kaiser Foundation Hospital, San Francisco

### KH

Kaiser Permanente Medical Center, Honolulu

### KHDV

Kaweah Delta District Hospital, Visalia

### KP

Kaiser Foundation Hospital, Oakland

### KSSF

Kaiser Foundation Hospital, South San Francisco

### KWC

Kaiser Foundation Hospital, Walnut Creek

### L

Letterman Army Medical Center, San Francisco

### LBL

Lawrence Berkeley Laboratory, Berkeley

### LH

Laguna Honda Hospital and Rehabilitation Center, San Francisco

### LPPI

Langley Porter Psychiatric Institute-Hospitals and Clinics, San Francisco

### MC

Maricopa County Hospital, Phoenix

### MG

Marin General Hospital, Greenbrae

### MHLB

Memorial Medical Center, Long Beach

### MZ

Mt. Zion Medical Center of UCSF, 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

Mills-Peninsula Hospitals, Burlingame

### PMC

Pacific Presbyterian Medical Center, San Francisco

### Q

Queen's Medical Center, Honolulu

### RLA

LAC-Rancho Los Amigos Hospital, Downey

### S

Stanford University Hospital, Palo Alto

### SCC

Santa Clara Valley Medical Center, San Jose

SDH  
Selma District Hospital, Selma

SFCH  
San Francisco Community Health Service, San Francisco

SFGH  
San Francisco General Hospital Medical Center, San Francisco

SGH  
Scenic General Hospital, Modesto

SH  
Shriners Hospital for Crippled Children, Honolulu

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' 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

T  
Tripler Army Medical Center, Honolulu

UC  
UCSF Medical Center, San Francisco (includes Moffitt, Long, Ambulatory Care Center, and Buchanan Dental Clinic)

UCD  
University of California Davis Medical Center, Sacramento

UCI  
University of California Irvine Medical Center, Orange

UCLA  
UCLA Center for Health Sciences, Los Angeles

UCSD  
University of California San Diego Medical Center, San Diego

VA  
Veterans Affairs Medical Center, San Francisco

VAF  
Veterans Affairs Medical Center, Fresno

VAL  
Veterans Affairs Medical Center, Livermore

VAM  
Veterans Affairs Medical Center, Martinez

VAP  
Veterans Affairs Medical Center, Phoenix

VAPA  
Veterans Affairs Medical Center, Palo Alto

VASD  
Veterans Affairs 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 by 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

**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

**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, W, 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) Su or Sp. Prerequisite: Gross anatomy and consent of instructor. Restriction: Open only to students enrolled in Physical Therapy program. 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. Radiation Effects on Genes & Chromosomes.** (2) § W, Sp. 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. Not offered 1991-92.

**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. Offered 1991-92.

**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. Not offered 1991-92.

**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. Not offered 1991-92.

**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 housestaff 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 skills; 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

## Animal Science

**166. Introduction to Laboratory Animal Science.** (3) Sp. Prerequisite: Course in general biology or consent of instructor. Lecture 2 hours. Lab 3 hours. **Hoener**

This course will consist of lectures and laboratories on the proper use of laboratory animals in a research environment. Topics will include the ethical/humane use of laboratory animals, selection of biomedical models, zoonotic diseases, general principles of anesthetics, analgesics, aseptic surgery, and humane methods of euthanasia. PHARMACY

## Anthropology

The courses listed below are offered through the Department of Epidemiology and Biostatistics.

**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.

**Justice and Staff**

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.** (4, 6-8, 6-8) § F, W, Sp. Prerequisite: Required for and open only to second-year students in the intercampus Ph.D. Program in Medical Anthropology. Lecture 1 hour F, Sp. Seminar 1 hour F, Sp, 2 hours W. Field work 5-7 hours F, 12-18 hours W, Sp.

**Ablon, Mitteness**

Fundamentals of anthropological research design, methods, and analysis 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.

**Staff**

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.

**Staff**

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.

**Mittness, 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

**254. The Aged Patient & Dementia.** (1-3) § F, W. Restriction: Open to students and postdoctoral fellows in dentistry, medicine, pharmacy, nursing, and graduate academic programs. Lecture 2 hours. Seminar 2 hours. Conference 2 hours. Clinic 2 hours. Patient contact 2 hours.

**Mittness, Moseley, Kramer, Finley, DiMinno** Participate in Alzheimer's Center Multidisciplinary Assessment Clinic. Focus on assessment of the elderly, specialized dementia assessment, depression assessment, differential diagnosis, home visit assessment of environmental match and caregiver competence, pharmacological management, family and cultural issues in care of elderly patients. 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**

Individual or small group directed reading and discussion of epidemiological and medical ecological per-

spectives, 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

**170.02. Medical Scholars Program Workshops.** (1) F, W. Prerequisite: First-year standing. Seminar 2 hours.

**Colby**

Workshops in cell and tissue biology (F) and human metabolism (W) will present challenging material in the form of weekly problem sets which students will solve in groups. The material presented augments required coursework with basic science and clinical information. 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) § W. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology. Lecture 3 hours.

**Fletcherick and Staff**

Fundamental principles governing the behavior of, and modern techniques for, study of biological macromolecules. Topics covered are: thermodynamics (entropy, equilibrium, cooperative interactions); kinetics and catalysis; structure and function of macromolecules (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. Not offered 1991-92.

**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) § W, Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry and an advanced course in biology. Lecture 3 hours.

**Yamamoto**

The discovery of principles forming the foundation of molecular biology and recent advances in rapidly developing areas of the field. Topics covered are: 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. Not offered 1991-92.

**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

**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.

**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.

**240. Principles of Nuclear Magnetic Resonance Imaging.** (3) § Sp. Prerequisite: Baccalaureate degree in engineering or a physical science; knowledge of Fourier analysis, electromagnetic waves and radiation; or permission of instructor. Lecture 3 hours.

**Hylton, Carlson, Crooks, Ortendahl, Kaufman**  
Fundamentals of nuclear magnetic resonance and magnetic resonance imaging; parameterization of

image acquisition, image optimization, and display. Emphasis on Fourier imaging methods and instrumentation.

**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.

**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**

Important clinical issues relevant to bioengineering will be reviewed to help students appreciate the potentials and pitfalls of contemporary technologies. Students will contact scientists, physicians, nurses, technicians, and patients to 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.

## 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. Restriction: 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.

**205. Mammalian Genomic Rearrangement.** (1.5) § Sp. Lecture 1.5 hours.

**Morgan, Murnane**

This course will focus on the mechanisms of recombination, specific DNA rearrangements and how they are manifested cytogenetically, factors influencing the rate of DNA rearrangements, and the consequences of DNA rearrangements in mammalian cells.

**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**

**297. Special Study.** (1-3) § F, W, Sp. Conference 1-3 hours.

**Staff**

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

The courses listed below are offered through the Department of Epidemiology and Biostatistics.

**171. Introduction to Linear Algebra.** (3) § F.

Prerequisite: One year of college-level mathematics. Lecture 3 hours. Offered in alternate years: Offered 1991-92.

**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, chi-square, and non-parametric. 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: Not offered 1991-92.

**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.** (3)

§ W. Prerequisite: Biostatistics 185A-B or Biostatistics 187 or permission of instructor; familiarity with chi-square tests and linear regression. Lecture 2 hours. Lab 3 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: Offered 1991-92.

**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.** (2-4) § F, W, Sp. Lecture 2-4 hours. Lab 0-3 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) § F.

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. CELL BIOLOGY

**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) § F.

Prerequisite: Calculus, physical chemistry, organic

chemistry, and an advanced course in biology are highly desirable. Lecture 3 hours.

**Walter, White**

Modern aspects of the molecular basis of cell function are examined with emphasis on how cells move, secrete, divide, and communicate with each other. 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

**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. CELL BIOLOGY

## 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) § Sp. Prerequisite: Chemistry 113, 116, and 165 or equivalent. Lecture 3 hours.

**Oppenheimer, Burlingame**

A study of the detailed processes associated with organic reactions. PHARM CHEM

**203. Applied Kinetics.** (3) § F. Prerequisite: A course in advanced organic chemistry or consent of instructor. Lecture 3 hours.

**Cashman**

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.

**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 6 weeks.

**Kayser 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 6 weeks.

**Kayser 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 6 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 6 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, and 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.** (1) Sp. Lecture/seminar (one Saturday and one weekday evening) 10 hours total.

**Kimble, Sauer**  
Through lecture and discussion, issues facing women in pharmacy will be explored. Specific topics to be addressed include career planning and management; balancing career and personal life; job vs. career commitment; alternative work-time options; mentorship; and issues related to increasing numbers of women entering the profession. Successful female role models will be invited to share experiences and perspectives, providing additional discussion topics. CL PHARM

**170.07. Addictionology & Substance Abuse Prevention.** (1-2) W. Lecture 1 hour. Three community presentations (optional).

**Kimble, Kopp, Inaba**  
A survey course that addresses the physical and mental effects of drug abuse; intervention and treatment strategies; legal and ethical issues surrounding drug abuse; and substance abuse among health care professionals. 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 housestaff, 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**

In an interdisciplinary setting, students 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 history, 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 services. CL PHARM

**175.94. Drug Information-S.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.

**Winter, Tatso**

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 patients' 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, housestaff 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 Clerkship.** (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

**185.21. Clinical Pharmacokinetics.** (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.

**Winter, Boro**

The Clinical Pharmacokinetics elective will expose pharmacy students to the application of pharmacokinetics principles in the clinical setting. The students will provide pharmacokinetics consultations to pharmacy, medical, surgical, and nursing staff. CL PHARM

**185.22. Pediatrics—CHMC.** (1-8) Su, F, W, Sp. Prerequisite: Completion of all first-, second- and third-year coursework 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

**185.24. Oncology—Bone Marrow Transplant.** (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: Fourth-year standing (CP 130, 131, 132).

**Winter, Warda**

This rotation will enable students to participate in the acute management of patients on an oncology/bone marrow transplant unit in a community hospital. This includes involvement with daily team rounds, chemotherapy preparation, TPN ordering, antibiotic management, and hospice interdisciplinary conferences. CL PHARM

**185.25. Brookside Hospital Clerkship.** (1-8) F, W, Sp. Prerequisite: Completion of all first-, second- and third-year required coursework.

**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 coursework 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, syncope, dementia, and pneumonia. CL PHARM

**185.31. Critical Care Medicine—PMC.** (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and the Comprehensive Exam, and instructor approval.

**M. Winter, Lee, Whittle**

Students will participate in patient monitoring, teaching rounds, conferences, provision of drug information, inservice education, and the clinical management of selected critical care patients. CL 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 coursework 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—Q.** (1-8) F, W, Sp. Prerequisite: Completion of all first-, second- and third-year required coursework 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 County.** (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 include 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 of 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 are 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 appropri-

ate 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 coursework.

**Shimomura, Giambone, 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 coursework 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 coursework, 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 coursework, Clinical Pharmacy 148 or 149 and consent of instructor.

**Sauer and Staff**

Students participate in poison control center activities, e.g., answering phone, taking 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 coursework, 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 coursework, 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 coursework, 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 coursework 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 coursework 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



**188.27. Food & Drug Administration—UCD.** (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework, and consent of instructor.

**Sauer, Hazlet**

The Food & Drug Branch (FDB) is the regulatory agency in the State of California responsible for processed food, cosmetics, drugs, and medical devices. Students, based upon interests and goals, will participate in investigational drug reviews, analysis of proposed legislation, and/or special projects. The number of hours spent in each area and total units will depend on the student project and will be agreed upon by the student and preceptor prior to starting the clerkship. CL PHARM

**188.30. OPTION Care.** (1-8) F, W, Sp. Prerequisite: Completion of all first-, second- and third-year required coursework.

**Sauer, Fox**

Students 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 coursework 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

**188.45. Hematology/Oncology—UCD.** (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: CP 130, 131, 132. Fourth-year standing.

**Sauer, Lance**

Students participate in the clinical and dispensing activities of the hematology/oncology clinic. Activities include rounding with physicians, participation on the hospice multidisciplinary team, attending required conferences, and preparation and delivery of sterile chemotherapy agents. A project is required. CL PHARM

**188.81. Community Pharmacy Management—UCD.** (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: CP 130, 131, 132. Fourth-year standing.

**Sauer, Lallo**

The student will gain practical and didactic experience in all aspects of operation and management of an outpatient community prescription pharmacy. Emphasis will be placed on business and management aspects of practicing in a prescription-only pharmacy, one of three in a small independent group. 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.

**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

**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 micro-teaching 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 & Mgmt 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 & Mgmt in Dental Hyg.** (2) Sp. Lecture 2 hours.

**Immethun, Yamamoto**

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.

**Miyasaki**

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. 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.

**Wong**

Clinical application of the dental hygiene process for delivering patient-centered dental hygiene care incorporating a human needs theory framework. Patient care responsibilities 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 responsibilities 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. DENT PUB HLTH

**161. Orientation to Dentistry.** (2) S. Lecture 2 hours.

**Immethun, Yamamoto**

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 intended 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.** (0-1) F, W, Sp. Prerequisite: Second-year dental hygiene standing. Seminar 1 hour.

**Yamamoto, 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.

**Yamamoto**

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.** (2) F. Lecture, lab, and field work.

**Pollick and Staff**

Students learn basic methods of epidemiology and preventive dentistry in a personal and practical manner, by collecting, analyzing, and presenting dental data from each other and from San Francisco school children, with a focus on prevention and examination of dental disease in dental students and school children. 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.** (0-6) 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

**140.01. Multidisciplinary Topics in Dentistry.** (1.5) Su. 15 hours per week for 1 week.

**Bird and Staff**

This is a multidisciplinary course designed for the beginning fourth-year dental student. It is designed to prepare students for the advanced clinical skills needed in esthetics, materials, complex case and team efficiency management. In addition, it is intended to give the student direction to achieve immediate post-graduate goals. 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. Multidisciplinary Geriatric Care.** (1.5) F, W, Sp. Lecture 2 hours. Field work 2 hours. Conference 1.5 hours (optional).

**Bird, Rogers, Becker, Williams, Leed**

A seminar and clinical rotation in which the students function as members of a multidisciplinary health care team. Students evaluate geriatric patients and formulate comprehensive treatment plans. Seminar topics include functional assessment, home assessment, social resources and dental management. DENT PUB HLTH

**186.10. Issues in Professional Leadership.** (1) Su, F, W, Sp. Prerequisite: Permission of instructor. Restriction: Limited to 12 students. Conference 1 hour.

**Greene**

This course is designed to give structure and guidance to the experience of students with an interest in leadership and governance. DENT PUB HLTH

**186.20. Communication Skills in Dentistry.** (1) F. Prerequisite: Junior or senior standing. Seminar 1 hour.

**Yee, Bird, and Staff**

An interactive seminar course to improve overall communication skills in direct patient care in dentistry. The course will refine students' skills in the behavioral sciences so that they can render more effective dental care to patients by understanding patients' needs and cope with those needs effectively. DENT PUB HLTH

**186.30. Dental Private Practice: Career Guidance and Planning.** (1) W. Prerequisite: Junior or senior standing. Seminar 1 hour.

**Yee, Bird, and Staff**

An interactive seminar to help dental students focus on their career goals, have a written plan and action steps to achieve those goals, and to explore career options in private practice, in specialties, and in other fields. Learn to put together an attractive resume, do well on job interviews, and how to start the first practice. DENT PUB HLTH

**186.40. Dental Private Practice: Financial Planning and Management.** (1) Sp. Prerequisite: Junior or senior standing. Seminar 1 hour.

**Yee, Bird, and Staff**

An interactive seminar course to introduce effective financial management principles to run a private dental practice. Concepts on debt management, cash flow, break-even analysis, fee setting, budgeting, and staff compensation will be discussed. DENT PUB HLTH

**186.50. Advanced Dental Practice Management.** (1-2) F, W, Sp. Prerequisite: Permission of instructor. Restriction: Limited to 15 students. Seminar 1 hour. Research 1 hour. Project 1 hour (optional).

**Bird**

Advanced concepts of dental practice management utilizing dental practice case studies, computer simulations and practice analysis techniques, and independent study. Orientation to dental management systems will be included. DENT PUB HLTH

**188. Research Methods and Design in the Behavioral Sciences.** (1) F, W. 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

**188.10. Dental Science and Health Education I.**

(1) F. Prerequisite: DPHH 116 or consent of instructor. Restriction: Limited to 6-10 students. Seminar 1 hour. Research 0-1 hour. Field work 0-3 hours.

**Pollick**

Review of literature on dental science projects and dental health education for grades 6-8 in the San Francisco Unified School District. Students will develop their own project to assess needs and plan, implement, and evaluate a program to address those needs. In conjunction with the Science and Health Education Partnership between UCSF and San Francisco Unified District middle schools. DENT PUB HLTH

**188.20. Dental Science and Health Education II.**

(1) W. Prerequisite: DPHH 188.10 or consent of instructor. Restriction: Limited to 6-10 students. Seminar 1 hour. Research 0-1 hour. Field work 0-3 hours.

**Pollick**

Review of literature on dental science projects and dental health education for grades 6-8 in the San Francisco Unified School District. Students will develop their own project to assess needs and plan, implement, and evaluate a program to address those needs. In conjunction with the Science and Health Education Partnership between UCSF and San Francisco Unified District middle schools. DENT PUB HLTH

**188.30. Dental Science and Health Education III.** (1) Sp. Prerequisite: DPHH 188.20 or consent of instructor. Restriction: Limited to 6-10 students. Seminar 1 hour. Research 0-1 hour. Field work 0-3 hours.

**Pollick**  
Review of literature on dental science projects and dental health education for grades 6-8 in the San Francisco Unified School District. Students will develop their own project to assess needs and plan, implement, and evaluate a program to address those needs. In conjunction with the Science and Health Education Partnership between UCSF and San Francisco Unified District middle schools. 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**  
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

**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

**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-B, 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<sup>++</sup> 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

**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

Courses in Biostatistics and Anthropology, which are also offered through the Department of Epidemiology and Biostatistics, are listed separately under their respective headings.

**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, Croughan-Minihane

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

**140.02B. 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

**140.05. Clinical Clerkships Abroad.** (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Nine months of clinical work and Epidemiology 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 also be made to participate in a public health or research program abroad. EPID & BIOSTAT

**150.01. Medicine in Developing Countries.** (1.5 per week) W. Prerequisite: Epidemiology 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. Restriction: Limited to 2 students per block.

### F. Dunn and Staff

Research abroad, usually in a developing country, under supervision of a member of the Epidemiology 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 101 or consent of instructor. Lecture 1 hour. Optional term paper for 2 units.

### Petrakis and Staff

Survey and discussion of key papers in the epidemiology of major cancer sites. Emphasis is on etiologic and methodologic aspects and implications for 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

**170.10. Occupational Epidemiology.** (1-2) W. Prerequisite: Epidemiology 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

**170.12. Epidemiology of Infectious Diseases.** (1-2) F. Prerequisite: Previous or concurrent enrollment in an introductory epidemiology course, such as Epidemiology 101 or equivalent, and previous or concurrent enrollment in an introductory microbiology

course, such as Microbiology 100B or equivalent. Lecture/seminar 1 hour. Term paper for 2 units optional with consent of instructor.

### Lifson

Course considers the public health consequences of different communicable diseases (including AIDS, sexually transmitted diseases, tuberculosis, measles, and food-borne bacterial diseases), and examines strategies for surveillance, outbreak investigation and prevention (including immunization) of infectious diseases in different settings. EPID & BIOSTAT

**170.13. Molecular Cancer Epidemiology.** (1-2) W. Lecture/seminar 1 hour. Term paper for 2 units optional with consent of instructor.

### Wienecke and Guest Lecturers

Course explores how biologic markers can be used to understand factors involved in human carcinogenesis and how to use lab methods and analytical epidemiology to identify, at the molecular and biochemical level, exogenous agents and host factors affecting human cancer causation. EPID & BIOSTAT

**180.01. Tropical Medicine Clinics.** (1-2) § Su, F, W, Sp. Prerequisite: Epidemiology 100 and 6 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.** (3) § Su, F. Prerequisite: Consent of instructor. Lecture 1 hour. Workshop 6 hours.

### Hulley

A workshop for students to design their own protocol for carrying out a clinical research project. Specific topics are: the research question, study designs, study subjects, measurements, sample size, ethical considerations, presets, data management, quality control, and proposal writing. 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

**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.

### Lipscomb and 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, and VMC in Fresno. 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, N. Byl**

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

**140.40. Adv Inpatient Fam Med Clkshp.** (1.5 per week) Su, F, W, Sp. Prerequisite: Senior medicine clerkship.

**R. Goldschmidt**

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.

**Kallsen, 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

**140.54. Primary Care in the Latino Community—Fresno.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, Peds 110, Ob/Gyn 110. Fourth-year standing.

**Cruz**

Outpatient clinical experience in a community health center in a predominately Latino community, with emphasis on community-oriented primary care. Each student's program will be individually tailored to include exposure to epidemiology, pediatrics, ob/gyn, and adult medicine in a Latino community. 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, Werdegard 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.

**W. Shore**

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 District 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

**160.70. Community Medicine in International Perspectives.** (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Consent of instructor.

**Braveman, Lane, Goldsmith, Petitti**

An 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 as well as availability of appropriately supervised sites. 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.** (1) Su, F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours for 6 weeks.

**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

**170.08. Complementary Forms of Healing.** (1) F. Medical students only. Lecture 1 hour.

**Lane**

This course explores the general theory and practice of several widely utilized non-allopathic healing modalities with the aim of demonstrating how these therapies can be complementary to modern technology-centered health care. 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

**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

## 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 prokaryotes, 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. Offered 1991-92.

**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 and Development

**110. Normal & Abnormal Craniofacial Dev.** (1) F. Lecture 1 hour.

**Kahn, 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

**210. Developmental Biology of the Craniofacial Complex.** (2) Su. Prerequisite: Available for credit to graduate students in oral biology, dental postdoctoral specialty programs, and as an elective to upper class students in dentistry and medicine. Lecture 1 hour. Seminar 0.5 hours. Conference 0.5 hours.

**Kahn, Derynck, Vargervik, Chierici, Damsky**

Lectures, seminars, and classroom discussion on the fundamental mechanisms underlying craniofacial development and the etiology, pathogenesis, and treatment of craniofacial defects. 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.

**Staff**

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

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

**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).

**Risse**

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).

**Risse**

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, and the 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.

**Pressman, Risse**

Introduction to medical historiography. Discussion of the different approaches employed in writing and interpreting history. HIST HLTH SCI

**204B. Historical Research II.** (2-4) § W. Prerequisite: Consent of instructor. Seminar 2 hours. Optional term paper & reports.

**Pressman**

Introduction to research in medical history. Survey of bibliographical tools available to historians. Visits to archives and libraries in the Bay Area. Interviewing skills 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.

**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

**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.

**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. Lecture 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

**220. Selected Topics.** (2-3) § F, W, or Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Seminar 1 hour. Term paper (optional).

**Staff**

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).

**Clarke**

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. Six 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. Not offered 1991-92.

### 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, Otolaryngology, 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) SS1, SS2, Su, F, W, Sp. Third- or fourth-year medical students.

### Engman, Corash, Roth, Levin, Gottfried

Active participation in all aspects 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.

### 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 laboratory for infectious diseases diagnosis. The practical course may be taken at VAMC, SFGH, or UC (four weeks per site). 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 Woerber, 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) Su, Sp. Prerequisite: Medicine 110 and Surgery 110. Restriction: All fourth-year students in School of Medicine for May session; all third-year students in School of Medicine for June session.

**Lo**

Course will discuss the ethical, legal, and policy issues in the clinical practice of medicine. Students are required to write a paper analyzing a case that presented ethical dilemmas. 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.** (7-6-6) F, W, Sp. Prerequisite: Anatomy 100, 103; Biochemistry 100A-B; Interdepartmental Studies 100, Medicine 131A-B-C; Microbiology 100A-B (may be taken concurrently); Pathology 101, 102 (may be taken concurrently); Physiology 100, 101; or consent of instructor.

**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 Woerber, 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. Acting Intern, CRI—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Shuman and Staff**

Students function as interns supervised by a fellow and resident on the Clinical Cancer Service working up patients with hematologic and solid tumor malignancies. In addition, students attend conferences, perform 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 inpatient and outpatient infectious diseases at VAMC. Commonly encountered

general ID problems of hospitalized patients, and comprehensive outpatient management of HIV disease are stressed. Introduction to clinical microbiology and hospital epidemiology are included. MEDICINE

**140.05. Cardiology—PMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.

**Cohn**

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

**140.06. Cardiology—PMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Danforth**

Students on the Cardiology Ward team comprised of PMC housestaff and cardiology attendings will participate in all activities of the team including CCU rounds and EKG reading sessions. Students may elect to attend actual cardiac catheterizations and angiographic procedures and consultations. 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, along with a second-year fellow, two first-year fellows, a medical resident and attending, serve as a member of the gastroenterology clinical service. Attend all conferences, participate in all patient management in both clinic and wards. 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 angiographic 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**

Students evaluate and manage patients with blood coagulation and its disorders, hematologic and solid tumor malignancies. Learn the technique of bone marrow aspiration and biopsy, and the morphologic interpretation of these specimens. Attend boards, rounds, and conferences. MEDICINE

**140.12. Geriatrics—VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Loneragan**

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.

**Goosby, 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

**140.15. Longitudinal Clinic Pilot Program—MZ.** (3) Su, F, W, Sp. Prerequisite: Medicine 140.01 (or currently enrolled in Medicine 140.01 at SFGH or Mt. Zion, or any senior clerkship that would enable the student to pick up patients to be followed in clinic).

**Papadakis**

Working in clinics one-half day a week over six to nine months, students will follow patients picked up in senior clerkships such as Medicine 140.01. Approximately 15 positions are available: SFGH, Mt. Zion, and long-term Home Care Clinics at SFGH. 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.** (1.5 per 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, W. 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

**140.22C. 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

**140.22F. Pathophysiology—Therapeutics.** (6) W. Prerequisite: Medicine 110 or Pediatrics 110 or Surgery 110. Minimum class size 15; maximum class size 40.

**Sebastian, Benowitz**

Emphasis on applied pathophysiology and clinical therapeutics. 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

**140.22I. Pathophys-Endocrine Metabolism.**

(6) W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

**Sebastian, Karpf**

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

**140.23. 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.

**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.

**Pont**

Students will attend rounds in the coronary care unit and receive instruction in cardiology, stressing electrocardiography; students may work in the pulmonary function laboratory and attend all 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 evaluate patients in the wards and outpatient clinics; review peripheral blood smears; participate in conferences and seminars. Emphasis on patients with blood coagulation and its disorders, hematologic and solid tumor malignancies. MEDICINE

**140.30. Endocrine 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 housestaff and fellow-supervised consultations, four weekly clinics, bi-weekly rounds, and conferences on current research. Students participate in clinical investigation of patients with endocrine disorders who are hospitalized 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.** (1.5 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.

**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.

**Ives**

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) SS1, SS2, Su, F, W, Sp. Prerequisite: Medicine 110.

**Cheitlin, Rapaport, N. Goldschlager**

Students see patients in consultation on wards and clinics, read electrocardiograms, improve auscultatory skills, 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) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**Simon**

Students evaluate medical, surgical, gynecologic, and non-critical trauma patients under attending supervision. Attend short teaching conferences held daily, with longer departmental conferences weekly. "Hands-on" training such as suturing, casting and splinting, and airway managing are provided. MEDICINE

**140.39. Pulmonary Disease—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Stulberg**

Students participate fully on the inpatient Pulmonary Consult Service, interviewing, examining, presenting, and doing follow-up of their own patients. Attend weekly conferences, receive some experience with procedures (e.g., bronchoscopy), learn pulmonary function interpretation, and do directed reading relevant to their patients. 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 surgi-

cal 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. Clinical Toxicology & Pharmacology—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**C. Becker, Olson**

Students evaluate patients in hospital and clinic settings, as well as consultations from San Francisco Poison Control Center. Students participate in patient-oriented rounds with special emphasis on toxicology, occupational medicine, drug overdose, drug abuse, and alcoholism. 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. Renal Medicine—VA.** (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Medicine 110.

**Pollock**

Students evaluate patients with acute and chronic disease, acute and chronic dialysis, and fluid and electrolyte problems. Attend lectures, rounds, conferences, renal biopsy review, and weekly renal clinic. 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 disease. 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. Attend daily rounds; research opportunities available. MEDICINE

**140.55. Acting Internship—C.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth-year students.

**Busch**

Students, under supervision, will evaluate and share in the care of patients admitted to an acute care hospital. Experience includes history and physical examination, diagnostic and treatment planning, and writing orders and progress notes. Attend daily rounds and conferences. MEDICINE

**140.56. Geriatric Medicine—MZ.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**H. Brownstein, Feigenbaum**

Students, under supervision, perform consults on hospitalized and clinic patients. They participate in multidisciplinary geriatric assignment, and become acquainted with Geriatric Day Care, Alzheimer's Day Care, and other community programs and resources. 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

**140.61. 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) SS1, SS2, Su, F, W, Sp. Prerequisite: Medicine 110.

**D. Perloff, Scheinman**

Students receive instruction in reading electrocardiograms, in the use and interpretation of diagnostic procedures such as echocardiography, Holter monitoring, treadmill exercise testing, nuclear medicine, cardiac electrophysiology, and cardiac catheterization. Students attend cardiac and hypertension clinics, CCU rounds, and weekly conferences. MEDICINE

**140.66. Internal Medicine—VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.

**Holmes**

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 housestaff 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 housestaff 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 (gastrosopies, 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

**140.75. 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

**160.04. 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

**160.10. 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

**170.01. AIDS-HIV: Overview & Update.** (2) W. Lecture 2 hours. 1-2 hour panel discussion.

**Bartnof, Papadakis**

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

**170.09. 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

**170.12. Introduction to Geriatric Medicine.** (1.5) W. Lecture 1.5 hours.

**Goodstein**

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

**170.16. Longitudinal Clinic Pilot Program.** (1) F, W, Sp. Prerequisite: Medicine 140.01 (or currently enrolled in Medicine 140.01 at SFGH or Mt. Zion, or any senior clerkship that would enable the student to pick up patients to be followed in clinic).

**Papadakis**

Working in the clinics one-half day per week over nine months, students will have an opportunity to follow patients picked up in senior clerkships such as Medicine 140.01. Four positions are available: one at SFGH, three at Mt. Zion. Participants will be excused

from clerkships one afternoon per week, and outpatient responsibilities will take precedence over inpatient clerkship duties. 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

**188.03. 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 eco-

omic 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

**405. 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 post-mortem 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. **Woerber**

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 multi-

specialty 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 workups, 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

**110. Immunology in Pharmacy.** (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

**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 infec-

tion 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

**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 Stdnets.** (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. Not offered 1991-92.

**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. **Staff**

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. Not offered 1991-92.

**Varmus, Ganem, J.M. Bishop, Levintov**

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) § Sp. Conference 1-3 hours.

**Staff**

Small group tutorial in which topics and correlative reading will be selected 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 and faculty. 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 housestaff, 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

**140.01. 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 experience 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 the 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.** (6) Sp. Prerequisite: First-year Dentistry standing. Lecture 5 hours. Lab 2 hours.

**Sargent, Wentworth, Christie, Steller**

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 the oral cavity. STOMATOL

**156. Neurobiology.** (5) Sp. Prerequisite: First-year Dental Hygiene standing. Lecture 5 hours. Lab 4 hours.

**Sargent, Wentworth, Christie, Steller**

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 the oral cavity. STOMATOL

**201. Basic Concepts in Neuroscience.** (6) § F.

Lecture 4 hours. Conference 2 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 in Mammals.** (3) § F, W, Sp.

Prerequisite: Anatomy 103, Neuroscience 201. Lecture 2 hours. Conference 1 hour.

**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

**245. The Limbic System.** (1.5) Sp. Prerequisite: Neuroscience 201. Lecture 1 hour for 6 weeks. Seminar 2 hours for 6 weeks.

**Stryker, Malenka**

Lectures and critical discussion of current research on the limbic system in the mammalian brain and its relationship to behavior. Topics include the neural bases of learning, memory, motivation, and emotion; spatial learning; the meso-limbic reward system; and synaptic plasticity. 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

- 140. Integrated Sciences.** (3) F. Lecture 3 hours.  
**M. Engler, M. Engler**  
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
- 141. Anatomy and Physiology.** (6) Su. Lecture 5 hours.  
**M. Engler, M. Engler, C.A. Gilson**  
This introductory course integrates human anatomy and physiology of the major organ systems and emphasizes the intimate relationship between structure and function. The course provides the foundation needed to understand human responses to wellness and illness. PHYSIOL NURS
- 142. Introduction to Nursing.** (11) Su. Lecture 3 hours. Patient contact 24 hours.  
**C. West**  
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) W. 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.** (14.5) F. Prerequisites: N141, N142. Lecture 5 hours. Patient contact 28.5 hours.  
**P. Halliburton**  
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. Prerequisites: N141, N142. 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. Prerequisites: N140, N141, N142, 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. Prerequisites: N140, N141, N142, 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. Prerequisites: N140, N141, N142, 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. Prerequisites: N140, N141, 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. Prerequisites: N140, N141, 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. Prerequisites: N140, N141, N142, N143, N144, N145, N146, N147, N148. Lecture 3 hours.  
**B. Roberts**  
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.

**A. Meleis**  
Comparative study and critical analysis of major prototype theories from which conceptions of nursing are derived. Emphasis is placed on systems, symbolic interaction, developmental, adaptation 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**

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.

**Staff**

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. MENT HLTH COM ADM

**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, nurs-

ing minimum data set, decision-making) in order to capture patient outcomes for program planning activities. MENT HLTH COM ADM

**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.

**M. White**

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.

**J. Hallburg**

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.

**Staff**

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.

**S. Neidlinger**

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.

**N. Stotts**

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. Afonso, 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.

**B. Drew**

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

**211.23B. International/Cross-Cultural Nursing Research.** (3) § W, Sp. Prerequisites: 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. MENT HLTH COM ADM

**211.51C. Clinical Research Methodologies.** (3) § Sp. Prerequisite: N211A. Lecture 2 hours. Seminar 1 hour.

**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.

**R. Slaughter**

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. MENT HLTH COM ADM

**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.

**P. Halliburton**

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.

**M. White**

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.

**Staff**

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.

**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. Prerequisites: N221.03 and N275. Seminar 3 hours.

**B. Bires, S. Janson-Bjerklie**

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.

**Staff**

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.

**C. Miaskowski**

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. Prerequisites: 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. MENT HLTH COM ADM

**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-III-R, 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.

**Staff**

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.

**C. Miaskowski**

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.

**C. West**

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.

**L. Ennis, 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 intrapartum 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

**225. Cardiac Rhythm: Theory & Analysis.** (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.

**B. Drew**

Cardiac electrophysiology in normal and pathological states and the scientific base for nursing's response to cardiac arrhythmias. Content includes; theory and research on the mechanisms, diagnosis, electrocardiographic monitoring, treatment of cardiac arrhythmias, and use of the electrocardiogram for nursing research. PHYSIOL NURS

**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. MENT HLTH COM ADM

**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. MENT HLTH COM ADM

**231. Issues in Nurse-Midwifery Practice.** (3) § Sp. Prerequisite: Enrollment in the midwifery program at UCSF School of Nursing. Seminar 3 hours.

**J. DeJoseph**

Seminar focuses on a critical analysis of current issues in midwifery, including the context of practice, health policy, and patient education. FAM HLTH

**232. Clinical Pharmacology in Primary Care.** (3) § F, W, Sp. Prerequisite: Consent of instructor. Limited to nurse practitioner students. Lecture 3 hours.

**S. Echaves**

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.

**D. Oda**

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: N235AB. 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.

**Staff**

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.

**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: N240AB. 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.

**F. Dreier**

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. Lecture 2 hours every other week.

**S. Carroll, J. Saxe**

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) or consent of instructor. 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) § W, Sp. Prerequisite: Psychiatric/Mental Health students or consent of instructor. Seminar 2 hours.

**B. Furuta**

Students will 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.

**D. Weekes**

Nursing 244ABC 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.

**K. Lee**

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.

**Staff**

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. Prerequisites: 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. Prerequisites: 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.

**M. Engler, M. Engler**

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.

**Staff**

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.

**D. Affonso**

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.

**M. Truskier, P. Jackson,**

**K. Duderstadt**

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, K. Duderstadt**

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.** (3) § W. Lecture 3 hours.

**M. Truskier, K. Duderstadt**

Course presents theories, concepts, and knowledge for comprehensive care of children with common pediatric illness. It emphasizes common acute conditions managed by a clinical nurse specialist in Pediatric Primary Care in collaboration with a 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. Seminar 2 hours. Field work 3 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.

**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.

**D. Taylor, L. Lommel**

Emphasis is on theory and management of biopsychosocial 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.

**D. Taylor, L. Lommel**

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 rights, 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, J. Flanagan, D. Taylor**

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.

**J. DeJoseph**

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

**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 inter-

pretation 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) § W. Prerequisite: N238A, Anthropology 235, Psychology 205, or consent of instructor. Lecture 3 hours.

**D. Weekes**

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.

**B. Nuchols**

Course introduces principles of industrial hygiene and safety for identification of chemical, biological, 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.

**L. Weaver**

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.

**P. Benner**

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

**277. Assessment/Management of Psychiatric Problems.** (3) § W. Prerequisite: N270 or consent of instructor. Lecture 3 hours.

**J. Faucett**

Course focuses on assessment and management of psychosocial problems and psychiatric conditions. Course is designed to assist students in determining

patients for management and for referral and to develop beginning skills in managing selected patients. MENT HLTH COM ADM

**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.

**C. Chesla**

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 or consent of instructor. Lecture 2 hours. Seminar 1 hour.

**C. Gilliss, C. Chesla, M. Leavitt**

Course integrates family theoretical and therapeutic concepts to focus on nursing assessment and intervention strategies for family problems in health and illness. 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).

**Staff**

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.

**Staff**

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. FAM HLTH

**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.

**I. Martinson**

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. Pre-

requisite: N287A and consent of instructor. Lecture 3 hours.

**Staff**

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. Pre-

requisite: 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 for Nurse Administrators.** (4) § W. Lecture 3 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.

Prerequisites: N211.08B (Critique of Management Research) or equivalent, N287D (Financial Management for Nurse Administrators) 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. MENT HLTH COM ADM

**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.

**Staff**

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. MENT HLTH COM ADM

**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 N287ABC 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: N404.06AB. 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

**406ABC. 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. PHYSIOL NURS

**407.01 Clin Mgmt of Older Adults.** (2) § F. Prerequisites: 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: N411AB. 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, Sp. Lecture 1 hour. Lab 3 hours.

**J. Grout**

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 185AB are recommended. Lecture 1 hour. Lab 3 hours.

**S. Paul**

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

**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 defi-

ciencies, 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.

**Powell**

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.

**Kitzmilller 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 Semi.** (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

**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.

**Kitzmilller**

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 Clerkship-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 Clerkship—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. OPTHALMOL

**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. OPTHALMOL

**140.03A. Advanced Clinical Clerkship—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor. One student per block.

**Seiff, Good**

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. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**140.06. Adv Ophthalmology Clerkship—VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

**Zarbin**

Clinical observation of patients in clinics, wards and surgery. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**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. OPTHALMOL

**457. Clinical Ophthalmology.** (1.5 per week) Su, F, W, Sp.

**PH.A. Schwartz, STM R.N. Shaffer, Schatz, CHS, SRM Rathbun, DMC 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. OPTHALMOL

**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. OPTHALMOL

## Oral Biology

**108.01. Intro to Caries & Perio.** (1) Sp. Prerequisite: Biochemistry 110A-B, Microbiology 116. Lecture 1 hour.

**Ryder**

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.

**Winkler**

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**

Discussion of biological problems of interest in dentistry including saliva, mineral metabolism, hydroxyapatite 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

**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

**211. Saliva and Salivary Glands.** (2) § F Offered in alternate years; contact Oral Biology office for next offering. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.

**Newbrun**

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

**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. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.

**Damsky**  
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) § W. Prerequisite: Oral Biology 221. Consent of graduate advisor and instructor. Seminar 2 hours.

**Kramer**  
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. Cell Physiology.** (2) § Su. Lecture 1.5 hours, Conference 0.5 hours.

**Rothman, Sargent, A. Miller, Gruenert**  
Survey of selected topics in cellular physiology, including a discussion of cell permeability, electrical properties of cells, muscle contraction, secretion, and stimulus-response coupling. STOMATOL

**224. Host Response.** (2) § F. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.

**Pereira**  
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.** (2) § W. Prerequisite: Oral Biology 224 or consent of graduate advisor and instructor. Lecture 2 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. Advanced Oral Microbiology.** (3) § Sp. Prerequisite: Oral Biology 224 & 225 or consent of graduate advisor and instructor. Lecture 3 hours.

**Armitage, Newbrun, Bramanti, Winkler, Johnson, Richards**  
Continuation of studies in oral microbiology begun in Oral Biology 225. In-depth study of the structure, metabolism, genetics, and ecological relationships of bacteria, yeasts, and fungi that affect oral tissues. 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**  
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**  
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; re-

view 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 and 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, myofascial 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 student's 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.** (0-1) 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 and Staff**

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, W, Sp. 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. Daniels**

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.  
**R. Boyd**  
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.  
**Nielsen**  
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.

**D. Johnson**  
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.

**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.

**R. Boyd**  
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

**R. Boyd**  
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.

**R. Lee**  
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.

**R. Lee**  
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.

**R. 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

**179.03A-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

**189. Adv Orthodontics in Gen Practice.** (1-2) Su, F, W, Sp. Prerequisite: Fourth-year standing. Clinic 3-6 hours.

**R. Boyd**

Fourth-year dental students will work closely with second-year orthodontic residents in the clinical management of patients requiring comprehensive orthodontic treatment delivered by the orthodontic specialist. 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.

**Skinner**

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

**199. Laboratory Project.** (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 3-15 hours.

**Skinner**

A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. ORTHO SURG

**401. Orthopaedic Pathology.** (1) 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.

**Staff**

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) Su.

**Staff**

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, DMC, SFGH, SSF, UC and VA.

**Staff**

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 Staff**

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

**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

**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

**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.

**Staff**

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—NRM.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.

**Staff**

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. Otolology 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 & BIostat

## 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.** (4) 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 2 hours.

**Friend**

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.

**Friend**

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.

**Friend**

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.

**Friend**

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 pa-

thology. 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, house-staff, and MSTP 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) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor. Seminar 5 hours.

**M. Morris and Staff**

Oral examination, treatment planning, treatment of children including behavioral management. Time is spent in the Pediatric Dentistry Clinic at UCSF. The course involves clinical training, seminars, and treatment in the hospital operating room under general anesthesia. 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.

**M. Morris**

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.

**M. Morris**

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.

**M. Morris 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.

**M. Morris 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.

**M. Morris 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) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 1 hour. Clinic 1.5 hours.

**M. Morris 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.

**M. Morris 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.

**Golbus**

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.

**Gerdson**

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.

**Gerdson**

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.

**Appelbaum**

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.

**Egli**

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.

**Bayatpour**

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

**140.07. 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, M. Golabi, S. Packman**

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.

**Tsukahara**

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.

**Samn**

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 trainee 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

**140.26. 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 Clerkship—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

**140.33. 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.

**S. Kohl**  
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—NRM.** (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

**140.38. Behavioral & Developmental Pediatrics.** Su, F, W, Sp. Prerequisite: Pediatrics 110 and consent of instructor. Lecture 1 hour, Conference 10 hours, clinic 4 hours.

**Tanner**  
Students are included in all phases of a comprehensive evaluation for a child with school and learning problems. Physical, neurological, psychological, speech and language, and educational assessments as well as child and family interviews provide a truly biopsychosocial perspective. 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.

**Levine**

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.

**Levine**

Introduction to the diagnosis and treatment of periodontal diseases. Emphasis will be placed on examina-

tion 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.

**Levine**

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.

**Levine**

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.

**Levine**

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.

**Levine**

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.

**Levine**

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.

**Levine**

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 psychoeducation, 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 defending 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) W. Prerequisite: Perio 429.02. Clinic 18 hours.

**Shibata**

Advanced surgical techniques in management of periodontal lesions. STOMATOL

**429.04. Periodontal Therapy.** (6) Sp. Prerequisite: Perio 429.03. 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

**201A. Basic Principles of Medicinal Chemistry.** (3) § F. Lecture 3 hours.

**Wang**  
Introduction to basic principles of medicinal chemistry, with focus on physicochemical 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). Not offered 1991-92. 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). Offered 1991-92. Lecture 2 hours.

**Shafer**  
Principles and recent advances in nucleic acid structure, including experimental and theoretical approaches. PHARM CHEM

**204. Introduction to Computer Programming.** (3) § W. 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

**213. Kinetics of Drug Absorp & Disposn.** (3) § F. Prerequisite: Chemistry 115. Calculus background is recommended. Lecture 2 hours. Conference 2-3 hours.

**Öie, Giacomini**  
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

**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 toxicological 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, proximity 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. Offered 1991-92.

**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, Brodsky, Blake**

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, R. Day, 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, Guy**

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**

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.

**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

**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

**170.06. 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****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

**108. Basic Medical Procedures.** (2) § Sp. Prerequisite: Completion of course work in summer term, fall and winter quarters. Lecture 1 hour. Lab 2 hours.

**Richards**

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

**110. Ortho & Rehab Diag/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 & Rehab Diag/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 management 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 lymphatic 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 kinesiol-

ogy, 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. Current Topics** (1) § Su, F, W, Sp. Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program. Seminar 2 hours.

**Staff**

Students, staff, or guest lecturers present 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 Physical Therapy.** (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 development of 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.** (0) § 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.** (0) § Sp. Prerequisite: Enrolled in Graduate Program in Physical Therapy and satisfactory completion of academic coursework with overall B average to enter the clinical clerkships. 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.** (0) § 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.** (0) § 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 Interdepartmental Studies 100 and concurrent enrollment in Biochemistry 100; 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 100A-B, Biochemistry 100, Physiology 100, Interdepartmental Studies 100, or consent of instructor. Lecture 1 hour. Conference 4 hours.

**Lingappa**

Within the framework of endocrine and gastrointestinal physiology, the course 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 exactly the 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.

**Korenbrod 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

**203. Adv Topics in Cell Physiology.** (4) § Sp. Lecture 4 hours.

**Korenbrod, Verkman**

Cellular & molecular aspects of membrane transport mechanisms—both active & passive transport of electrolytes & non-electrolytes. Selected transport processes studied in detail for their roles in cell physiology and the molecular identity & properties of the transporter proteins. 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

**223. Physiology Research Seminar.** (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

**Hall**

Seminar presentations by guest speakers, alternating with discussion by Physiology staff members of their current research. Each quarter, a different topic of physiological interest is the subject of guest presentations. Students may enroll for any number of quarters. PHYSIOLOGY

**224. Molec Biol of Lipid Metabolism.** (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1991-92.

**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

**227. The Scientific Method.** (2) § W. Prerequisite: Graduate or professional education in at least two of the following: biochemistry, microscopic anatomy, cellular physiology or biophysics, systems physiology, microbiology, or equivalent, or by permission of instructor. Maximum of 20 students. Seminar 2 hours.

**Rothman**

Focus on the evaluation of modern research in the biological sciences, in terms of the consonance of particular experimental efforts with the historical and philosophic basis of scientific investigation. 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**

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. Psychological & Cultural Basis of Health & Illness Behavior.** (1) W. Prerequisite: Psychiatry 100A. Seminar 2 hours.

**Leigh, 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. Risk factors and preventive interventions are explored. 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 Instructor.

**Kaltreider**

Participation in psychiatric assessment and treatment, with supervision of attending and resident staff. Options include consultation-liaison service, or inpatient adult or child service. Other special focus experiences such as outpatient, AIDS, geriatrics, may be arranged with Dr. Pamela Martin. 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

**140.06. Behavioral Medicine: Biopsychosocial Approach to Patients-VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Psychiatry 110.

**Hoyle, Jamner, Hierholzer**

Fresno Dept./Psychiatry offers a 4-6 week elective rotation in Behavioral Med. Cntr. and the Psychiatric Consult. Svc. Students given opportunity for comprehensive patient evaluation using the biopsychosocial treatment plan; participation in psychosomatic medicine research, work with interdisciplinary team. Housing provided by UCSF. 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

**170.01. Intro to Study of Suicide.** (2) § F, W, or 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

**170.17A. 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) Sp. 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 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) F, W, or Sp. Prerequisite: Open to medical students only. Seminar: 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.

**N. Kaltreider 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

**212. Psychological Stress & Coping.** (4) § Sp.

Prerequisite: Consent of instructor. Seminar 4 hours. Offered in alternate years. Not offered 1991-92.

**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. Not offered 1991-92.

**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. Not offered 1991-92.

**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. Not offered 1991-92.

**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. Offered 1991-92.

**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. Offered 1991-92.

**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. Offered 1991-92.

**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.

**Margolis, Meyler**

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

**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

**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, 100B, 103, and Pathology 102. Concurrent enrollment in Medicine 131A-B-C. Lecture 2 hours. 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 interven-

tional 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 con-

sultant 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.

**Thoeni**

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.

**Thoeni**

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.

**Thoeni**

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.

**Carlsson**



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.

**Minagi**  
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.

**Carlsson**  
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 Minagi**  
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.

**S. Lee**  
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/Primary Care.** (0-4) Pre-F, F, W, Sp. Prerequisite: RD 110C, 115C, 116. Concurrent enrollment in RD 120 lecture series and 125 laboratory series. Clinic 6 hours/week for 3 weeks Pre-F, 3 hours/week F, W, Sp. Lecture 2 hours/week for 4 weeks Pre-F.

**Maxwell and Staff**

Comprehensive case workup of dental patients. Includes case history, clinical examination, diagnosis, and treatment planning to meet the patient's total dental needs. Experience in the administration of local anesthetic and placement of rubber dams, and the placement of a restoration on a clinical patient. RESTOR DENT

**130.01. Restorative Materials & Techniques: Theory.** (2) Su. Prerequisite: RD 120C, 125C, and 126C. Lecture 3 hours/week for 8 weeks.

**Maxwell**

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.

**Tueller, Lacy, Goodis, White, Hutton**

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.

**Tueller, Goodis, Lacy, Finzen**

Concluding lectures on clinical application of restorative techniques. Topics include understanding why clinical failures occur with selected materials; biologi-

cal 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 endodontics. Students are expected to pass a qualifying clinical 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 discipline of prosthodontics. Students are expected to pass a clinical qualifying examination by the end of spring quarter of the 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. Clinic variable.

**Pelzner**

Clinical instruction and practice in oral diagnosis and treatment planning, and restorative dentistry. 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.

**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

**156. Dental Materials Survey.** (1) Sp. Prerequisite: Enrollment in the Dental Hygiene Program. Lecture 1 hour. Three 2-hour lab sessions.

**J. White**

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

**J. Hutton**

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.

**J. Hutton**

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.

**J. Hutton**

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. New Applic in Restor Dent: Materials & Techniques.** (1) F, W, Sp. Prerequisite: Fourth-year standing. Lecture 1 hour.

**Lacy**

Survey of new materials and clinical techniques used in contemporary dental practice with particular emphasis on cosmetic dentistry. Topics may include, but are not limited to, dentin-bonding systems, etched porcelain restorations, methods of intraoral repair of fixed restorations, esthetic posterior restorations, alternative designs for fixed bridgework, and newly introduced products. 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) F. Prerequisite: Fourth-year standing. 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. Consent of instructor. Enrollment limited to 5 students. Seminar 1 hour.

**Finzen and Staff**

Seminar to discuss current concepts of removable partial denture design. The emphasis will be on designing RPDs for routine situations, but more com-

plex 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. CAD/CAM: Application to Dentistry.** (1) Sp. Prerequisite: Second-, third-, or fourth-year dental student. Limit 20 students. Lecture 2 hours for 4 weeks, Lab 1 hour for 3 weeks.

**Fett, Setcos**

Course will concentrate on adhesive bonded ceramic inlays in posterior teeth. Topics include indications for bonded restorations, tooth preparation, operation of a CAD/CAM system, bonding procedures, finishing and polishing techniques. A literature review will give the students a perspective of the indications of computer-aided dentistry to date. 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 II, III, and V gold foil restorations using the conservative approach, as well as wedge and matrix. Work will also be done on Class II and 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.

**G.W. Marshall, S. Marshall, 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.

**Goodis, Barkhordar, Srinivasan**

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, Davis**

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.

**White, Lacy**

A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. RESTOR DENT

**199.05. 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.

**Finzen, Hutton**

A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. RESTOR DENT

## Sociology

**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) § 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 doctoral students in sociology. Restriction: Doctoral-level students in nursing or sociology. Lecture 2 hours. Lab 3 hours.

**V. Olesen**

Course examines 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 sociological 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.

**Staff**

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**

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.

**A. Strauss**

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.

**G. Becker**

Course examines the health status of the aged in the United States related to biological, behavioral, socio-cultural, 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.

**Staff**

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 "hid-

den careers," work and health in developing societies, relationship between work and morbidity-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: 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. 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. Offered in alternate years. Not offered 1991-92. 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 185AB 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

**260. Policy and Politics of Health.** (3) § Sp. Lecture 2 hours. Field work 3 hours.

**C. Harrington, C. Estes**

Course examines health care policy and politics in terms of historical and contemporary issues related to access, quality, and cost. Organizational, financing, and labor market issues are included, along with strategies for social change. 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. Prerequisites: 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. Offered in alternate years. Not offered 1991-92. 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. Offered in alternate years. Not offered 1991-92. 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. Offered in alternate years. Not offered 1991-92. Prerequisite: Basic research statistics and Research Methods (S270AB 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. Offered in alternate years. Not offered 1991-92. 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. Offered in alternate years. Not offered 1991-92. Lab 0-6 hours. Seminar 2 hours.

**A. Clarke**

Course examines early functionalist and Marxist theories, Kuhn's work, social constructionist, ethnomethodical, 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.

Offered in alternate years. Not offered 1991-92. 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

**286. Women, Health, and Healing.** (2-4) § F. Lecture 2 hours. Field work 0-6 hours.

**V. Olesen, A. Clarke**

Course examines women's participation in formal and informal health and healing systems, with emphasis on health problems, recruitment to health professions, images of women in health and illness, and women as providers. Issues for minority women of color are highlighted. 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. Offered 1991-92.

**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. Offered 1991-92.

**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 in alternate years. Offered 1991-92.

**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. Offered in alternate years. Offered 1991-92.

**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. Offered 1991-92.

**Staff**

Review of the physics of sound as it applies to the 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

**140.01A. Advanced Clerkship in General Surgery—UCSF Blue Service.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110, Medicine 110.

**Reilly, Pellegrini**

Senior clinical clerks participate in clinic, ward, and operating room with direct involvement in post- and pre-operative care. SURGERY

**140.01B. Advanced Clerkship in General Surgery—UCSF Gold Service.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110, Medicine 110.

**Reilly, Schrock**

Senior clinical clerks participate in clinic, ward, and operating room with direct involvement in post- and pre-operative care. SURGERY

**140.01C. Advanced Clerkship in General Surgery—SFGH Elective/Extremities Service.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110, Medicine 110.

**Reilly, Lewis**

Senior clinical clerks participate in clinic, ward, and operating room with direct involvement in post- and pre-operative care. SURGERY

**140.01D. Advanced Clerkship in General Surgery—VAH General/Vascular Service.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110, Medicine 110.

**Reilly**

Senior clinical clerks participate in clinic, ward, and operating room with direct involvement in post- and pre-operative care. SURGERY

**140.01E. General Surgery.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

**Siperstein, O. Clark, R. Allen**

Senior clinical clerks participate in clinic, ward, and operating room with direct involvement in post- and pre-operative care. 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, intraoperative 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

**140.12A. Adv Clerkship in Plastic/Reconstructive Surgery—UCSF.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110, Medicine 110.

**Reilly, Mathes**

Students act as advanced clerks, taking part in operative procedures as well as postoperative management of the patient. Students will be exposed to patients with general reconstructive problems; trauma to the head and neck, hand surgery, and congenital anomalies. SURGERY

**140.12B. Adv Clerkship in Plastic/Reconstructive Surgery—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110, Medicine 110.

**Reilly, Mathes**

Students act as advanced clerks, taking part in operative procedures as well as postoperative management of the patient. Students will be exposed to patients with general reconstructive problems; trauma to the 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 immunosuppressive 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 Urology.** (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.

DMC 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, DMC 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

## Toxicology

**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

## 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

**150.01. Research in Urology.** (1.5 per week) F, W, Sp. Prerequisite: Must be third- or fourth-year medical student. Must have approval of chair, dean, and involved research faculty. Lab 35 hours, Conference 4 hours, Library research 1 hour, for 4-12 weeks.

**Carroll**

Research project under the direction of a member of the Department of Urology. 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