

# GENERAL CATALOG 1989-90



UCSF

University  
of  
California  
San Francisco



# 1989-90 Calendar

## **Fall Quarter 1989**

Fall quarter begins  
*September 4 Monday*  
Labor Day\*  
*September 4 Monday*  
Registration (new & readmitted)  
*September 14 Thursday*  
Registration (continuing, in person)  
*September 15 Friday*  
Instruction begins  
*September 18 Monday*  
Class instruction ends  
*November 22 Wednesday*  
Thanksgiving holiday\*  
*November 23 Thursday & November 24 Friday*  
Final examinations  
*November 27 Monday–December 1 Friday*  
Registration (winter continuing, in person)  
*November 30 Thursday & December 1 Friday*  
Clinical instruction ends  
*December 1 Friday*  
Christmas holiday\*  
*December 22 Friday–December 25 Monday*  
New Year's holiday\*  
*December 29 Friday–January 1 Monday*  
Fall quarter ends  
*December 31 Sunday*

## **Winter Quarter 1990**

Winter quarter begins  
*January 1 Monday*  
Registration (new & readmitted)  
*January 2 Tuesday*  
Instruction begins  
*January 2 Tuesday*  
Martin Luther King, Jr. Day\*  
*January 15 Monday*  
President's Day\*  
*February 19 Monday*  
Registration (spring continuing, in person)  
*March 8 Thursday & March 9 Friday*  
Class instruction ends  
*March 13 Tuesday*  
Final examinations  
*March 14 Wednesday–March 20 Tuesday*  
Clinical instruction ends  
*March 20 Tuesday*  
Spring holiday\*  
*March 23 Friday*  
Winter quarter ends  
*March 25 Sunday*

## **Spring Quarter 1990**

Spring quarter begins  
*March 26 Monday*  
Registration (new & readmitted)  
*March 26 Monday*  
Instruction begins  
*March 26 Monday*  
Memorial Day\*  
*May 28 Monday*  
Class instruction ends  
*June 1 Friday*  
Final examinations  
*June 4 Monday–June 8 Friday*  
Clinical instruction ends  
*June 8 Friday*  
Spring quarter ends  
*June 17 Sunday*

## **Summer Session One 1990**

Registration  
*June 15 Friday*  
Instruction begins  
*June 18 Monday*  
Independence Day\*  
*July 4 Wednesday*  
Instruction ends  
*July 27 Friday*  
Session ends  
*July 29 Sunday*

## **Summer Session Two 1990**

Registration  
*July 13 Friday*  
Instruction begins  
*July 30 Monday*  
Labor Day\*  
*September 3 Monday*  
Instruction ends  
*September 7 Friday*  
Session ends  
*September 9 Sunday*

## **Summer Term 1990**

Registration  
*June 15 Friday*  
Instruction begins  
*June 18 Monday*  
Independence Day\*  
*July 4 Wednesday*  
Labor Day\*  
*September 3 Monday*  
Instruction ends  
*September 7 Friday*  
Summer term ends  
*September 9 Sunday*

\*Academic/Administrative holiday.  
Note: This schedule does not apply to the Schools of Medicine or Dentistry.

## Courses

This chapter is a compendium of the courses of instruction offered by the University of California, San Francisco.<sup>9</sup> Courses are arranged in numerical order under alphabetically listed subject headings. As these headings do not in every case correspond to a department, the responsible department or other instructional unit is indicated at the end of the course description for each course. Abbreviations used for these departments or instructional units are spelled out in the list below. Inquiries about individual courses should be addressed to the indicated department or instructional unit for information that is not included here, nor in the separately published bulletins of the four schools or of the Graduate Division. These bulletins, available from the respective schools or the Graduate Division, indicate, for example, the place of various courses in the different established curricula. Faculty rosters may also be found in the bulletins of the four schools.

**Course Description**—Course information is arranged in two paragraphs with periods separating items. The first paragraph includes course number, title, units in parentheses, session offered, prerequisite, format and

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

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

### Departments and Other Instructional Units

- ANATOMY  
Department of Anatomy, School of Medicine.
- ANESTHESIA  
Department of Anesthesia, School of Medicine.
- BIOCHEM  
Department of Biochemistry and Biophysics, School of Medicine.
- CL PHARM  
Division of Clinical Pharmacy, School of Pharmacy.
- DENT PUB HLTH  
Department of Dental Public Health and Hygiene, School of Dentistry.
- DERMATOL  
Department of Dermatology, School of Medicine.
- EPID INTL HLTH  
Department of Epidemiology and International Health, School of Medicine.

<sup>9</sup>Additional courses are offered by the Schools (see Addresses section) under their programs of Continuing Education.

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.

MED INF SC  
Section of Medical Information Science, School of  
Medicine.

MEDICINE  
Department of Medicine, School of Medicine.

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

MICROBIOL  
Department of Microbiology and Immunology,  
School of Medicine.

NEURO SURG  
Department of Neurological Surgery, School of  
Medicine.

NEUROLOGY  
Department of Neurology, School of Medicine.

OB GYN RS  
Department of Obstetrics, Gynecology and Repro-  
ductive Sciences, School of Medicine.

OPHTHALMOL  
Department of Ophthalmology, School of Medi-  
cine.

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 Medi-  
cine.

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 Medi-  
cine.

PHYSIOL NURS  
Department of Physiological Nursing, School of  
Nursing.

PHYSIOLOGY  
Department of Physiology, School of Medicine.

PSYCHIATRY  
Department of Psychiatry, School of Medicine.

RADIOLOGY  
Department of Radiology, School of Medicine.

RESTOR DENT  
Department of Restorative Dentistry, School of  
Medicine.

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

STOMATOLOGY  
Department of Stomatology, School of Dentistry.

SURGERY  
Department of Surgery, School of Medicine.

UROLOGY  
Department of Urology, School of Medicine.

## Hospitals

AB  
Alta Bates Hospital, Berkeley.

AS  
Atascadero State Hospital, Atascadero.

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

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

CHS  
Community Hospital of Sonoma, Santa Rosa.

CM  
Ernest V. Cowell Memorial Hospital, Berkeley.

CSP  
Center for Special Problems, San Francisco

DCH  
Davis Community Hospital, Davis.

FCH  
Fresno Community Hospital and Medical Center,  
Fresno.

FR  
French Hospital Medical Center, San Francisco.

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

H  
Highland General Hospital, Oakland.

K  
Kaiser Foundation Hospital, San Francisco.

KHDV  
Kaweah Delta District Hospital, Visalia.

KP  
Kaiser Foundation Hospital, Oakland.

KSSF  
Kaiser Foundation Hospital, South San Francisco.

L  
Letterman Army Medical Center, San Francisco.

LPPI  
Langley Porter Psychiatric Institute, San Francisco.

MG  
Marin General Hospital, Greenbrae.

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

MM  
Mills Memorial Hospital, San Mateo.

MZ  
Mt. Zion Hospital and Medical Center, San Fran-  
cisco.

NAT  
Natividad Medical Center, Salinas.

NRMC  
Naval Regional Medical Center, Oakland.

NS  
Napa State Hospital, Imola.

OC  
O'Connor Hospital, San Jose.

P  
Peralta Hospital, Oakland.

PH  
Peninsula Hospital and Medical Center, Burling-  
ame.

PMC  
Pacific Medical Center, San Francisco.

RDMC  
Ralph K. Davies Medical Center, San Francisco.

RLA  
Rancho Los Amigos Hospital, Downey.

S  
Stanford University Medical Center, Palo Alto.

SCC  
Santa Clara Valley Medical Center, San Jose.

SFGH  
San Francisco General Hospital Medical Center,  
San Francisco.

SGH  
Scenic General Hospital, Modesto.

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

SJ  
San Joaquin General Hospital, Stockton.

SM  
Samuel Merritt Hospital, Oakland.

SMC  
Seton Medical Center, Daly City.

SRM  
Santa Rosa Memorial Hospital, Santa Rosa.

SS  
Sonoma State Hospital, Eldridge.

SSF  
Shriners Hospital for Crippled Children, San Fran-  
cisco.

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

STF  
St. Francis Memorial Hospital, San Francisco.

STL  
St. Luke's Hospital, San Francisco.

STM  
St. Mary's Hospital and Medical Center, San Fran-  
cisco.

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

UCD  
University of California, Davis.

UCI  
University of California Irvine Medical Center,  
Orange.

UCLA  
UCLA Center for Health Sciences, Los Angeles.

UCSD  
University Hospital, University of California Medi-  
cal Center, San Diego.

VA  
Veterans Administration Medical Center, San Fran-  
cisco.

VAF  
Veterans Administration Medical Center, Fresno.

VAM  
Veterans Administration Medical Center, Martinez.

VAPA  
Veterans Administration Medical Center, Palo Alto.

VASD  
Veterans Administration Hospital, San Diego.

VMC  
Valley Medical Center of Fresno, Fresno.

## Anatomy

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

**Sutherland and Staff**

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

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

**Sutherland and Staff**

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

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

**Sutherland and Staff**

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

**103. Nervous System: Form & Funct.** (4-6) § Sp. Prerequisite: Consent of instructor required for graduate students. Lecture 5 hours. Lab 3 hours.

**H. Ralston, Stryker and Staff**

The structure and function of the mammalian nervous system studied in lectures, conferences, demonstrations, and laboratories, with emphasis on the human nervous system and its organization. Intended for students in the School of Medicine and as an introductory course for graduate students. ANATOMY

**103.01. Neuroanatomy.** (2) SS3. Prerequisite: Completion of course prerequisites for admission to the University and the Curriculum in Physical Therapy. Open only to students enrolled in the Curriculum, or consent of program director. Lecture 1 hour. Lab 3 hours.

**Garoutte**

The structural organization and function of the central nervous system are presented through lecture and laboratory study of models, wet and dry demonstration. Special emphasis accorded to clinical functional correlations. ANATOMY

**107. Neuromuscular Physiology.** (2) W. Prerequisite: Completion of course work in summer and fall. Open only to students enrolled in the Curriculum or consent of program director. Lecture 2 hours.

**Garoutte**

A study of the physiology of striated muscle and peripheral nerve in relationship to controlling mechanisms within the nervous system. ANATOMY

**115. Histology.** (3) § W. Lecture 2 hours. Lab 3 hours.

**Martin and Staff**

A study of the microscopic structures of the tissues and organs of the human body by means of lectures, demonstrations, and microscope slides. Functional aspects of the structures are stressed. Intended for students in the School of Pharmacy. ANATOMY

**116. Gross Anatomy.** (3) § Sp. Lecture 2 hours. Lab 3 hours.

**Sutherland**

A study of the macroscopic structure of the human body by means of lectures and dissections. Functional aspects of the structures are stressed. Intended for students in the School of Pharmacy. ANATOMY

**117.01. Gross Anatomy & Embryology.** (4) F. Prerequisite: First-year dental standing. Lecture 5 hours, Lab 15 hours.

**S. Fisher**

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

**117.02. Head & Neck Anatomy.** (4) F. Prerequisite: First-year Dentistry standing. Lecture 2 hours. Lab 6 hours.

**S. Fisher**

The gross anatomy of the head and neck is studied by lectures and dissection. Clinical applications and functions of importance to the dentist are emphasized. STOMATOLOGY

**117C. Neuroanatomy.** (2) W. Prerequisite: First-year Dentistry standing. Lecture 1 hour. Lab 3 hours.

**H. Ralston**

The structure and function of the nervous system studied by means of lectures, laboratory exercises, and demonstrations. STOMATOLOGY

**118. General Histology.** (4.5) § F. Lecture 4 hours. Lab 2 hours.

**R. H. Kramer**

The microscopic structure of tissues and organs of the body are studied with histophysiological considerations. STOMATOLOGY

**150.01. Gross & Regional Anatomy.** (1.5 per week) § Su, F, Sp. Prerequisite: Program must be approved by department and adviser during quarter previous to enrollment.

**Asling**

Individual or group dissection; advanced review of gross anatomy. Intended as a block elective course for advanced medical or graduate students. ANATOMY

**156.01. Gross Anatomy & Embryology.** (2.5) F. Prerequisite: Dental Hygiene standing. Lecture 5 hours. Lab 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 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 6 hours.

**S. Fisher**

The gross anatomy of the head and neck is studied by lectures and demonstrations. Clinical applications and functions of importance to the dental hygienist are emphasized. STOMATOLOGY

**156C. Neuroanatomy.** (2) W. Prerequisite: Dental Hygiene standing. Lecture 1 hour. Lab 3 hours.

**H. Ralston**

The structure and function of the nervous system studied by means of lectures, laboratory exercises, and demonstrations. STOMATOLOGY

**170. Advanced Head & Neck Anatomy.** (1-5) Sp. Prerequisite: General histology, gross anatomy of the head and neck, and oral histology. Lecture 1 hour. Lab 0-12 hours.

**Staff**

Designed for postgraduate specialty certificate students enrolled in the clinical specialty training programs in the School of Dentistry. Seminar presentation and demonstrations of head and neck anatomy are correlated with their application to clinical dentistry. RESTOR DENT

**170.02. Survey of Congenital Defects.** (2) Sp. Prerequisite: Gross anatomy and consent of instructor. Lecture 2 hours.

**McKenzie**

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

**170.09. Language of Anatomy.** (1) § Su, F, W. Prerequisite: Concurrent enrollment in Anatomy 100. Lecture 1 hour.

**Asling**

A three-component elective, fostering vocabulary-building in anatomico-medical terminology, reflecting history of medical and cultural themes influencing development of anatomical nomenclature, and through student oral reports on eponymic terms, introducing some major figures in anatomy. ANATOMY

**172. Clin Anat through Cross-Section.** (2) § Sp. Prerequisite: Anatomy 100. Not open to first-year medical students. Lecture 1 hour. Lab 3 hours.

**Asling**

Clinically oriented survey of human anatomy through analysis of representative cross-sections of the body. Course provides an anatomical background for understanding computed tomograms.

Student will prepare and keep an anatomy atlas usable in radiologic tomography. ANATOMY

**198. Supervised Study.** (1-5) § Su, F, W, Sp. Staff

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

**199. Laboratory Project.** (1-5) § Su, F, W, Sp. Staff

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

**201. Radiat Effects on Genes & Chrom.** (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours.

**S. Wolff**

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

**202. Organ Culture Methods.** (1) § W. Prerequisite: Basic courses in biology; a course in histology is recommended. Lecture 1 hour.

**J. Elias**

The course will discuss the advantages of organ culture methods in studying problems in embryology, endocrinology, pathology, and physiology, and in assessing the effects of hormones, nutritional substances, and carcinogens. ANATOMY

**203. Techniques in Cell Biology.** (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Not offered 1989-90.

**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

**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 1989-90.

**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 1989-90.

**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 1989-90.

**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 1988-89.

**J. LaVail, M. LaVail, L. Reichardt**

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

**250. Research.** (1-8) § F, W, Sp.

**Staff**

ANATOMY

**273. Biolog Scanning Electron Micros.** (1) § W. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 2 hours for three sessions. Enrollment limited.

**J. Long and Staff**

Principles of scanning electron microscopy including tissue preparative techniques and applications.

Laboratory sessions include participation in preparing and viewing biological specimens. ANATOMY

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

**Staff**

For graduate students engaged in writing the thesis for the master's degree. ANATOMY

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

**Staff**

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

**300. Practicum in Teaching.** (1-4) § F, W, Sp. Prerequisite: Consent of instructor.

**Staff**

Training in teaching in a course offered by the Department of Anatomy under the supervision of instructor in charge. Laboratory teaching, presentation of lecture material, experience in setting up and correcting of examinations, and participation in course are included. ANATOMY

**400. Clin Anat through Cross-Section.** (2) Su, Sp. Prerequisite: Open to house staff members of UC hospitals. Lecture 1 hour. Lab 3 hours.

**Asling, Ross**

Clinically oriented survey of human anatomy through analysis of representative cross-sections of the body. Course provides an anatomical background for understanding computed tomograms. Student will prepare and keep an anatomy atlas usable in radiologic tomography. ANATOMY

## Anesthesia

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

**Staff**

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

**140.01. Advanced Anesthesia Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Anesthesia 110.

**Drasner**

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

**140.02. Off-Campus Clerkship.** (1.5 per week) § Su, F, W, Sp. Prerequisite: Anesthesia 110.

**R. D. Miller**

Clinical clerkships in approved hospitals by special arrangement and approval of the chairperson of the department. 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. Anesthesia Obstetrical Clerkship.** (1.5 per week) Su, F, W. Prerequisite: Anesthesia 110, Obstetrics and Gynecology 110, and consent of instructor.

**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. ANESTHESIA

**140.05. Anesthesia for Ambulatory Surgery.** (1.5 per week) Su, F, W, Sp. Prerequisite: Anesthesia 110.

**Bogetz, Orkin**

Introduces the medical student to the operation of and the anesthetic management of patients in a hospital-based ambulatory surgery facility. Students work closely with anesthesia faculty and residents and assume a greater role in managing the anesthetic for the unit's patients. ANESTHESIA

**150.01. Anesthesia Research Project.** (1.5 per week) Su, F, W, Sp. Prerequisite: Third- or fourth-year status and consent of instructor.

**Glaser**

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. 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

## Anthropology

**200. Off-Campus Study.** (0) § F, W, Sp. Prerequisite: Approval of the graduate adviser. Open only to students enrolled in the graduate program in Medical Anthropology.

**Staff**

Full-time graduate study in the Medical Anthropology program through the intercampus exchange or consortium program. EPID INTL HLTH

**205A-B. Intro to Sociocultural Aspects.** (3-4, 3-4) § F, W. Prerequisite: Intended primarily for doctoral students in medical anthropology, and others at graduate standing with consent of instructor. Lecture 3 hours, plus 3 hours independent study for 4 units. Required for and open only to first-year students in the UCSF Ph.D. Program in Medical Anthropology. Two-quarter course.

**M. Clark, Justice**

Seminar in the history and theory of social anthropology as applied to problems of health and illness. Major concepts and problems will be illustrated through critical review of selected research literature. EPID INTL HLTH

**206A-B. Intro to Biomedical Anthropology.** (3-4, 3-4) § F, Sp. 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 INTL HLTH

**211A-B-C. Research Training Seminar.** (3-4, 3-6, 3-6) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours, plus 3 hours independent study for 4 units. Required for and open only to second-year students in the intercampus Ph.D. Program in Medical Anthropology.

**Ablon, Mitteness, Clark**

Fundamentals of anthropological research design and methods through lectures, readings and field assignments. EPID INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**216. Research Design.** (3) § F, W. Lecture 2 hours. Lab 3 hours.

**Nydegger**

Workshop format, utilizing student research interests. Topics include model building; problem for-

mulation; design of research strategies; evaluation of sampling methods; operationalization of concepts; special problems for qualitative data. Course is preparatory for anthropological statistics. EPID INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**225. Contemporary Issues.** (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 or 6 hours independent study for 3 or 4 units.

**M. Clark**

Introduction to selected controversies and current issues in medical anthropology, including sociology; sociocultural impact of high technology medicine; abortion, euthanasia and the right to life; status of research on the etiology of mental disorders; advocacy, praxis and the social scientist. EPID INTL HLTH

**226. Stigmatized Health Conditions.** (2-3) § F, W, or Sp. Lecture 2-3 hours.

**Ablon, G. Becker**

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 INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**231. Ethnopsychiatry.** (2-3) § F, W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units.

**M. Clark, Hartog**

Course examines principles of healing systems in the treatment of mental disorder including folk healing, cross-cultural comparisons, research methods, and implications for community psychiatry. Students study local examples of folk healers or folk healing institutions. EPID INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**235. Cross-Cultural Aspects of Childhood.** (3) § F. Prerequisite: Consent of instructor. Open to students in medicine, nursing and graduate departments. Lecture 2 hours, plus research paper.

**Mitteness, Barker**

Review of child development, child rearing and family dynamics in various non-Western cultures and in selected ethnic subcultures of the United States; from historical, psychological, and anthropological perspectives. EPID INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**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 INTL

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

**Staff**

Independent study. EPID INTL HLTH

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

**Staff**  
EPID INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**260. Epidemiology & Med Anthro.** (2-4) § Sp. Prerequisite: Training in epidemiology and consent of instructor. Lecture 2 hours plus 3 or 6 hours independent study for 3 or 4 units.

**F. Dunn, Janes**  
Individual or small group directed reading and discussion of epidemiological and medical ecological perspectives, methods, and findings relevant to the field of medical anthropology. EPID INTL HLTH

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

**Staff**  
Independent study. EPID INTL HLTH

**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 INTL HLTH

## 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**  
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.

**Colby, 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.** (2) W. Prerequisite: Consent of instructor. Seminar 2 hours.

**Colby**  
Seminar on molecular and cell biological approaches to disease processes. BIOCHEM

**198. Supervised Study.** (1-5) § Su, F, W, Sp.

**Colby**  
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. BIOCHEM

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

**Staff**  
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. BIOCHEM

**200A. Structure of Macromolecules.** (3) § Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology. Lecture 3 hours.

**Agard**  
Fundamental principles governing the behavior of, and modern techniques for study of biological macromolecules. Topics covered include thermodynamics (entropy, equilibrium, cooperative interactions). Kinetics and catalysis: structure and function of macromolecules—DNA, membranes, proteins by X-ray and electron optics. Kinetics and structure of cooperative enzymes and systems of biological control. BIOCHEM

**200B. Light & Electron Microscopy.** (1.5) § Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology are highly desirable. Lecture 2 hours. Lab 3 hours. Offered in alternate years. Not offered 1989-90. Biochemistry 200B alternates with 200C.

**Sedat, Agard**  
This course will emphasize the basics of light and electron microscopy as applied to cell and structural biology. Topics to be included are bright and dark field, polarization, DIC and fluorescent microscopy, STEM, three-dimensional tomography, and 2D and 3D electron crystallography. 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 1989-90.

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

**201A-B. Biological Regulatory Mechanisms.** (3, 1.5) § F, W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry and an advanced course in biology. Lecture 3 hours.

**Yamamoto**  
Discussion of the discovery of principles forming the foundation of molecular biology and recent advances in rapidly developing areas of the field. Topics covered include RNA transcription, protein translation, DNA replication, control mechanisms, and genome structure and organization. BIOCHEM

**202. Computation & Data Analysis.** (3) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours.

**Martinez**  
Computer-aided mathematical methods for extracting information from numerical and non-numerical data. Elements of error analysis, parameter estimation, equation solving, signal analysis and word processing, with applications at the research level. Supportive instruction in a structured programming language. BIOCHEM

**203. Introduction to Biomathematics.** (3) § Sp. Lecture 3 hours.

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

**240. Macromolecule Struc & Dynamics.** (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1989-90.

**A. R. Cooke, Stroud**  
Consideration of the structure, dynamics and function of macromolecules along with a treatment of the methods used to probe aspects of molecular organization and dynamics. Emphasis will be on modern E.M., X-ray and fluorescence, and magnetic resonance methods. BIOCHEM

**242. Protein Crystallography.** (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Offered in alternate years. Not offered 1989-90.

**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

**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. BIOCHEM

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

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

**Bioengineering**

**190. Diff Equations for Biomed Use.** (3) § F. Prerequisite: Introductory calculus. Lecture 3 hours.

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

**192. Laplace & Fourier Transforms.** (3) § W. Prerequisite: Bioengineering 190 or equivalent. Lecture 3 hours.

**Glantz**  
Course covers Laplace transform and numerical solutions of differential equations; Fourier transform and spectral analysis of biological signals; impulse, step, and frequency response; introduction to curve fitting; examples from pharmacokinetics and common laboratory instrumentation.

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

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

**200. Off-Campus Study.** (0) § F, W, Sp.

**Baumrind**

Full-time study in bioengineering at another location through the UCSF/UCB Graduate Group in Bioengineering.

**210. Radioactivity Applications.** (3) § Sp. Lecture 3 hours.

**Perez-Mendez**  
Basic physics of radioactivity and alpha, beta, gamma, and fission processes. Interactions of radiation with matter, basic radiation detectors for counting and determining energies of charged particles, neutrons, and gammas. Counting statistics and radiation protection. Applications in biology, chemistry, engineering.

**220. Bioengineering Seminar.** (1) § F. Seminar 2 hours.

**Baumrind, Bhatnagar**  
Presentation and discussion of student and faculty research in progress.

**221. Orthopaedic Mechanics & Materials.** (2) § W. Lecture 2 hours.

**Skinner**  
This course is intended to introduce the student to the mechanics of several joints in the human body, to acquaint the student with common biomaterials (and their properties) used in orthopaedics, and to discuss these uses with respect to joint mechanics and joint displacement.

**249. Group Studies.** (1-8) § F, W, Sp. Prerequisite: Graduate standing.

**Staff**  
Advanced study in various subjects through seminars on topics to be selected each year, informal group studies of special problems, group participation in comprehensive design problems, or group research on complete problems for analysis and experimentation.

**230A. Physics of Medical X-ray Imaging.** (3) § F. Prerequisite: Baccalaureate degree in engineering or a physical science, differential equations, Fourier analysis, or consent of instructor. Lecture 3 hours.

**Hasegawa, Cann, Gould**  
Basic interactions of photons and particles with matter; detectors and detector electronics; radiation quantity and quality, contrast, spatial resolution, noise, and image perception; radiation protection.

**230B. Physics of Medical X-ray Imaging.** (3) § W. Prerequisite: First quarter course in Physics of Medical X-ray Imaging or equivalent, or consent of instructor.

**Hasegawa, Cann, Gould**  
X-ray production, x-ray scatter and scatter production, video imaging, image intensifiers, linear tomography, computed tomography, xeroradiography, digital subtraction angiography, photostimulatable phosphor technology, dual-energy imaging techniques, bone-mineral densitometry, and quantitation of vascular flow.

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

**Staff**

**280. Clin Aspects of Bioengineering.** (2) § Sp. Prerequisite: Consent of instructor. Lecture 1.5 hours. Lab 1.5 hours.

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

**297. Special Study.** (1-8) § Su, F, W, Sp.

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

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

**Staff**  
For graduate students engaged in writing the thesis for the master's degree.

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

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

**Biomaterials**

**156. Dental Materials Survey.** (1) Sp. Lecture 1 hour. Lab 1 hour.

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

**Biomathematics<sup>10</sup>**

**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. BIOCHEM

**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. BIOCHEM

**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. BIOCHEM

**Biophysics<sup>11</sup>**

**200. Off-Campus Study.** (0) § W. Prerequisite: Approval of the graduate adviser. Open only to students enrolled in the graduate program in Biophysics.

**Staff**  
Full-time graduate study in the biophysics program through the intercampus exchange or consortium program.

**201. Cellular Biophysics.** (3) § F. Prerequisite: Biochemistry 200A. Lecture 3 hours.

**Cooke, Papahadjopoulos, Rothman**  
Topics covered: membrane structure and dynamics; transport and permeability; cellular motion and muscle contraction; cell energetics; DNA replication and information transfer; cell cycles.

**203. Mending Human Genes.** (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours.

**Cleaver**  
Introduction to eukaryotic DNA repair mechanisms. Emphasis is on cells damaged by UV light,

<sup>10</sup>See Biochemistry 202 and 203.

<sup>11</sup>The Graduate Group in Biophysics is an interdisciplinary group offering a Ph.D. in Biophysics. For details, refer to the *Graduate Studies* bulletin.

ionizing radiation, and chemical carcinogens. The genes involved in regulating repair in various inherited diseases involving mutagenesis, carcinogenesis, and aging will be described.

**207A. Image Cytometry: Theory, Methods & Applications.** (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**Mayall, Chew**

Introduction to quantitative microscopy, electronic imaging; digital image processing; feature extraction; measurement of individual objects; statistical analysis and validation of data; research and clinical applications of image cytometry.

**207B. Image Cytometry: Theory, Methods & Applications.** (3) § Sp. Prerequisite: Successful completion of 207A. Lab.

**Mayall, Chew**

One-week practicum to introduce image cytometric systems of Laboratory for Cell Analysis (CAS 100, TAS Plus, QUIPS). Students will complete a small project in which they apply image cytometry to a problem of biological or clinical relevance.

**210. Radiation Biophysics.** (3) § S. Prerequisite: Radiation Oncology 415. Lecture 3 hours.

**Deen**

Three hours of lecture and discussion per week. 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.

**215. Laboratory Rotation.** (3) § Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 9 hours.

**Deen**

A laboratory rotation course to acquaint first-year Biophysics students with the various approaches to biophysical research. Students will rotate through 3-4 labs.

**220. Biophysics Seminar.** (1) § F, W, Sp. Lecture 1.5 hours weekly.

**Mendelson**

Guest lecturers and reports of research by faculty and students of the Graduate Group in Biophysics.

**250. Research.** (1-8) § F, W, Sp.

**Staff**

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

**Staff**

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

**See also:**

Biochemistry 200A  
Chemistry 260  
Biostatistics 183

## Biostatistics

**171. Introduction to Linear Algebra.** (3) § F. Prerequisite: One year of college-level mathematics. Lecture 3 hours. Offered in alternate years; offered 1989-90

**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 INTL HLTH

**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, and simple chi-square tests. Intended for those who may need to use elementary statistics in their work; not as preparation for 200-level courses. EPID INTL HLTH

**185A. Probability & Statistics.** (4) § W. Prerequisite: Working knowledge of algebra. Lecture 4 hours.

**Raz**

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 INTL HLTH

**185B. Probability & Statistics.** (4) § Sp. Prerequisite: Completion of Biostatistics 185A; working knowledge of algebra. Lecture 4 hours.

**Raz**

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 INTL HLTH

**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 INTL HLTH

**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 1989-90.

**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 INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**205. Multivariate Methods for Discrete Data.** (2) § Prerequisite: Biostatistics 185A/B or Biostatistics 187 or permission of instructor; familiarity with chi-square tests.

**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 Poisson regression, quantal-choice models will be covered given sufficient time and interest. Emphasis will be on appropriate use of methods and interpretation of results. EPID INTL HLTH

**210A. Regression Analysis & ANOVA.** (4) § W. Prerequisite: Biostatistics 185A-B or Biostatistics 187 or equivalent. Lecture 3 hours. Lab 3 hours.

**S. Paul**

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 INTL HLTH

**210B. Regression Analysis & ANOVA.** (4) § Sp. Prerequisite: Biostatistics 185A-B, Biostatistics 210A or Biostatistics 187 or equivalent. Lecture 3 hours. Lab 3 hours.

**S. Paul**

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 INTL HLTH

**213. Multivariate Methods.** (4) § F. Prerequisite: Biostatistics 210A and 210B or equivalent. Lecture 3 hours. Lab 3 hours. Offered in alternate years. Offered Fall 1989.

**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 INTL HLTH

**225. Selected Topics.** (2 or 3) § F, W, Sp. Lecture 2 or 3 hours. Lab 0 or 3 hours.

**Staff**

Course will cover topics such as statistical methods for failure time data, time series, statistical methods for epidemiology. EPID INTL HLTH

**250. Research.** (1-8) § F, W, Sp.

**Staff**

EPID INTL HLTH

**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 INTL HLTH

## 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) § W. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology are highly desirable. Lecture 3 hours.

**Gumbiner**

Modern aspects of the biochemical basis of cell biology and development will be examined with emphasis on spatial organization and morphogenesis. BIOCHEM

**247. Specialized Topics in Cell Biology.** (2) § F, W, Sp. Prerequisite: Cell Biology 245. Lecture 2 hours.

**Staff**

Topics in Cell Biology will be discussed: a tutorial format, with student presentation of papers. The goals are an in-depth study of one area of cell biology, and critical reading of the scientific literature. BIOCHEM

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

## Chemistry

**112. Intro to Organic Chemistry.** (0) F. 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.

**Shetlar**  
 Elementary physical chemistry with emphasis on thermodynamics. PHARM CHEM

**116. Physical Chemistry.** (2) W. Prerequisite: Chemistry 115 or equivalent. Lecture 1.5 hours. Conference and demonstration 1.5 hours.

**T. James**  
 Elementary physical chemistry with emphasis on chemical kinetics. PHARM CHEM

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

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

**151. Physical Chemistry.** (1-3) Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours.

**Kuntz**  
 Selected topics at an introductory level, which vary from year to year. Past topics included structure of nucleic acid and proteins, quantum chemistry, and spectroscopy. PHARM CHEM

**158. Physical Chemistry Laboratory.** (1) Sp. Prerequisite: Chemistry 115 and 116. Lab 3 hours.

**Kuntz**  
 Laboratory exercises in spectroscopy. PHARM CHEM

**165. Organic Chem-Analytical Meth.** (4) § F. Prerequisite: Chemistry 113. Lecture 1 hour. Lab 9 hours.

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

**170. Group Studies Course.** (1-4) F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-4 hours.

**Cashman**  
 Group studies in selected topics in chemistry. PHARM CHEM

**198. Supervised Study.** (1-5) F, W, Sp.

**Staff**  
 Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. PHARM CHEM

**199. Laboratory Project.** (1-5) F, W, Sp.

**Staff**  
 A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. PHARM CHEM

**202. Advanced Organic Chemistry.** (3) § F. Prerequisite: Chemistry 113, 116, and 165 or equivalent. Lecture 3 hours.

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

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

**Cashman, Santi, Falick**  
 The course will consist of one unit of basic chemistry kinetics, one unit of organic chemical kinetics, and one unit of enzyme kinetics. PHARM CHEM

**205. Advances in Synthetic Methods.** (2) § F. Chemistry 113 and 165 or equivalent. Lecture 2 hours.

**J. Craig**  
 Recent advances in synthetic methods, comprising specific oxidizing agents, specific reducing agents, and other specific reagents. PHARM CHEM

**208. Advanced Organic Chemistry.** (3) § Sp. Prerequisite: Chemistry 113 and 165 or equivalent. Lecture 3 hours.

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

**209. Chemistry of Heterocyclics.** (3) § Sp. Prerequisite: Chemistry 113 and 165 or equivalent. Lecture 3 hours.

**J. Craig, Kenyon**

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

**260. Advanced Physical Chemistry.** (4) § W. Prerequisite: Two quarters of physical chemistry or consent of instructor. Lecture 4 hours.

**Dill**  
 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: Chem 260 or consent of instructor. Lecture 2 hours. Offered in alternate years. Offered 1989-90

**Dill, Kollman, Shafer**  
 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. STOMATOLOGY

## Clinical Pharmacy

**110. Orientation.** (2) F. Conference and field observation 3-4 hours.

**R. Levin**  
 An introduction to the scope of pharmaceutical practice including field trips to and participation in various settings where the pharmacist and patient interact. CL PHARM

**130. Therapeutics.** (6) F. Prerequisite: Successful completion of all required first- and second-year courses or consent of instructor. Lecture 5 hours.

Conference 2 hours.

**Koo, Kapusnik**  
 Orientation to selected areas of medical practice, the clinical evaluation and comparison of drugs used in these areas, and the bio-pharmaceutics of drug combinations and products. CL PHARM

**131. Therapeutics.** (6) W. Prerequisite: Clinical Pharmacy 130 or consent of instructor. Lecture 5 hours. Conference 2 hours.

**L. Hart, A. F. Wong**  
 Continuation of Clinical Pharmacy 130. CL PHARM

**132. Therapeutics.** (7) Sp. Prerequisite: Clinical Pharmacy 131 or consent of instructor. Lecture 6 hours. Conference 2 hours.

**Dong, Stagg**  
 Continuation of Clinical Pharmacy 131. CL PHARM

**133. Nutrition.** (3) Sp. Prerequisite: Third-year standing. Lecture 3 hours.

**McSweeney**  
 Clinical aspects of nutrition in ambulatory and institutional practice with emphasis on special needs of different populations. Nutritional supplements, enteral and parenteral products will be discussed as they apply to these populations. CL PHARM

**134. Topics in Pharmacy Administration.** (2) Sp. Prerequisite: Third- or fourth-year standing. Lecture 2 hours.

**Kishi**  
 Survey of major world health problems, and programs and agencies concerned with their control. Relationships of pharmacy to topics such as emergency medical services, communicable diseases, nutrition, sanitation, occupational health, maternal and child hygiene, mental health, and public health administration. CL PHARM

**135A. Drug Information Orientation.** (1.5) Su, F, W, Sp. Prerequisite: Third-year standing. Concurrent or subsequent enrollment in Clinical Pharmacy 130, 131 or 132.

**L. Hart**  
 Orientation to clinical services including patient interview techniques and monitoring; training and actual experience in literature retrieval, analysis and dissemination of drug information. CL PHARM

**135B. Drug Information Orientation.** (0.5) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 135A.

**L. Hart**  
 Continuation of Clinical Pharmacy 135A. CL PHARM

**148A. Inpatient Clinical Clerkship.** (9) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination. Clinic 40 hours per week for six weeks.

**Flaherty and Staff**

Supervised clinical pharmacy experience in an inpatient setting. Students develop and explore their roles in an interdisciplinary health care team, take medication histories, monitor drug therapy, provide patient education, and research patients' specific drug information questions. CL PHARM

**148B. Inpatient Clinical Clerkship.** (9) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A. Clinic 40 hours per week for six weeks.

**Flaherty and Staff**

Continuation of Clinical Pharmacy 148A. CL PHARM

**148.01A. Inpatient Clerkship—UCSD.** (9) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination. Clinic 40 hours per week for six weeks.

**Adler and Staff**

Supervised clinical pharmacy experience in an inpatient setting. Students develop and explore their roles in an interdisciplinary health care team, take medication histories, monitor drug therapy, provide patient education, and research patients' specific drug information questions. CL PHARM

**148.01B. Inpatient Clerkship—UCSD.** (9) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 148A. Clinic 40 hours per week for six weeks.

**Adler and Staff**

Continuation of Clinical Pharmacy 148.01A or Clinical Pharmacy 148A. CL PHARM

**148.02A. Inpatient Clerkship—UCI & MHLB.** (9) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination.

**Shimomura and Staff**

Supervised clinical pharmacy experience in an inpatient setting. Students will develop and explore their roles in an interdisciplinary health care team, take medication histories, monitor drug therapy, provide patient education, and research patients' specific drug information questions. CL PHARM

**148.02B. Inpatient Clerkship—UCI & MHLB.** (9) F, W, Sp. Prerequisite: Clinical Pharmacy 148.02A.

**Shimomura and Staff**

Continuation of Clinical Pharmacy 148.02A. CL PHARM

**148.03A. Inpatient Clinical Clerkship—UCD.** (9) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work and the comprehensive examination. Clinic 40 hours per week for 6 weeks.

**Sauer and Staff**

Supervised clinical pharmacy experience in an inpatient setting. Students will develop and explore their roles in an interdisciplinary health care team, take medication histories, monitor drug therapy, provide patient education, and research patient-specific drug information questions. CL PHARM

**148.03B. Inpatient Clinical Clerkship—UCD.** (9) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148.03A. Clinic 40 hours per week for 6 weeks.

**Sauer and Staff**

A continuation of Clinical Pharmacy 148.03A. CL PHARM

**149. Ambulatory Externship/Clerkship.** (13) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination.

**A. Leeds and Staff**

Supervised clinical experience in an outpatient setting. Students develop and explore their roles in an interdisciplinary health team, take medication histories, monitor drug therapy; and provide patient education. Experience in community pharmacies. CL PHARM

**149.01. Ambulatory Externship/Clerkship—UCSD.** (13) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination.

**Weibert and Staff**

Supervised clinical experience in an outpatient setting. Students develop and explore their roles in an interdisciplinary health team, take medication histories, monitor drug therapy, and provide patient education. Experience in community pharmacies. CL PHARM

**149.02A. Amb Externship/Clerkship—UCI & MHLB.** (6.5) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination.

**Shimomura and Staff**

Supervised clinical experience in an outpatient setting. Students develop and explore their roles in an interdisciplinary health team, take medication histories, monitor drug therapy, and provide patient education. Experience in community pharmacies. CL PHARM

**149.02B. Amb Externship/Clerkship—UCI & MHLB.** (6.5) F, W, Sp. Prerequisite: Clinical Pharmacy 149.02A.

**Shimomura and Staff**

Continuation of Clinical Pharmacy 149.02A. CL PHARM

**149.03. Ambulatory Externship/Clerkship.** (13) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and comprehensive examination. Clinic 40 hours per week for 12 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

**155.10. Pharmacy Systems.** (3) F, W, Sp. Prerequisite: Third-year standing or higher. Lecture 1 hour. Conference and special project 6 hours.

**Herfindal**

Orientation to inpatient and outpatient pharmacy systems. Projects in design, justification and implementation of distribution systems, such as unit dose, intravenous additive services, computer applications, will be the major grading criteria. CL PHARM

**155.20. Drug-Induced Disease Problems.** (3) F, W, Sp. Prerequisite: Pathology 135. Third-year standing or higher. Lecture 2 hours. Special project 4 hours.

**Tong**

The phenomena of iatrogenic diseases will be studied with major emphasis on their significance, pathology and management. Assessment of collection and analytic methods of adverse drug reaction information and evaluation of literature will be considered. Special projects will be assigned. CL PHARM

**155.30. Infectious Diseases Topics.** (3) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. Lecture and seminar 3 hours.

**Guglielmo**

Course provides students with intensive, systematic approaches to management of patients with selected infectious diseases. Emphasis is on controversies in management. Infectious diseases in specialized circumstances also included. CL PHARM

**155.40. Seminar in Intraprofessional Communications.** (1) F. Prerequisite: Second-, third-, or fourth-year standing and consent of instructor. Lab 2-3 hours. Seminar 1 hour. Conference 1 hour.

**Levin**

Preceptorship for Clinical Pharmacy 110 conferences. One sophomore and one junior preceptor per conference will be responsible for conducting oral presentations. One senior per conference will be responsible for taking students on tours of clerkship sites. CL PHARM

**155.50. Oncology Seminar.** (2) F. Prerequisite: Fourth-year pharmacy students in good standing; graduate nursing students in the oncology program. Seminar 2 hours.

**Ignoffo**

Discussion in detail of topics in oncology that focus upon the pharmacologic management of various neoplastic disorders or cancer-induced problems. CL PHARM

**157.10. Pharmacy Services Admin—MHLB.** (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Shimomura, W.E. Smith**

Course provides students with an overview of management and increases their awareness of major components of pharmacy services administration. CL PHARM

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

**Staff**

Group studies of selected topics in clinical pharmacy. CL PHARM

**170.01. Geriatric Pharmacy.** (2) F, W, Sp. Lecture 2 hours.

**Lipton**

The medical and social problems associated with the geriatric population will be reviewed, with emphasis on the use of medications and the role of the pharmacist in providing care for this patient population. CL PHARM

**170.05. Issues Facing Women in Pharmacy.** (2) Sp. Seminar 2 hours.

**Kimble, Sauer**

Through lecture and discussion, issues facing women in pharmacy will be explored. Specific topics to be addressed include career planning and management; balance or career and personal life; job vs. career commitment; part-time work options; and issues related to increasing numbers of women entering the profession. CL PHARM

**170.08. Current Topics in Cancer.** (2) Sp. Lecture 2 hours.

**Ignoffo**

This interdisciplinary course is designed to provide a framework of concepts and skills about preventive medicine, focusing on cancer prevention. CL PHARM

**170.60. Pharmacist & Critical Care.** (1.5) Sp. Prerequisite: Fourth-year standing and basic life support certification. Lecture 1 hour plus project.

**Kayser**

This course provides an introduction to the basic principles of critical care pharmacology and therapeutics. CL PHARM

**175.01. Inpatient Pediatrics—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Bolinger**

Students participate in the activities of the Inpatient Pediatric Service. Activities include routine review of patients' charts, monitoring patients' response to drug therapy; attendance at conferences, seminars and rounds; and participation in selected therapeutic consultations. CL PHARM

**175.02. Renal Medicine—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Gambertoglio**

Students participate in the activities of the Renal Medicine Service, including patient monitoring, attendance at conferences, seminars and rounds, and application of pharmacokinetics to drug therapy. Where appropriate, students prepare detailed consultations regarding individual patient therapy. CL PHARM

**175.03. Infectious Diseases—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Guglielmo**

Students review Infectious Disease Service therapeutic consultations and evaluate patients' response to recommended therapy by following chart records and by direct interviews. Students attend conferences, seminars and rounds. Special projects assigned. CL PHARM

**175.04. Clinical Pharmacokinetics—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter**

Students participate in the clinical service of the Clinical Pharmacokinetics Laboratory. Course includes reviewing drug levels, selecting patients to be monitored, preparation and presentation of reports, attendance at seminars, and experience in leading onc. CL PHARM

**175.07. Neonatal ICU—UC.** (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework. Consent of instructor.

**A. Wong**

Participate in activities of Neonatal ICU, including patient monitoring, rounds, drug consultation, and utilization. Patients are primarily premature and newborn infants with congenital heart defects. Work under supervision of clinical pharmacist in management of these patients. CL PHARM

**175.21. Pediatrics—SFGH.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**R. Levin**

Students participate with pediatric staff dealing with problems frequently encountered in general pediatric medicine, in addition to those which afflict children from low income, overcrowded and substandard conditions. Activities include rounds, conferences and participation in special projects. CL PHARM

**175.22. Infectious Diseases—VAM.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Winter, Rose, Erb, Gee**

Students gain experience on the Infectious Disease Consult Service. Activities include rounds, medication consultations and provision of pharmacokinetic monitoring. CL PHARM

**175.24. Psychiatric Medicine—NS.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter, Cohen**

Students observe, interview, evaluate drug therapy, interact with patients in acute phases of psychiatric disorders, accompany unit physicians to court, attend interdisciplinary team conferences, and make specific comments on drug therapy. CL PHARM

**175.25. Inpatient Medicine—VA.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Winter, Korman and Staff**

Experience in various medical services at VA. Activities include interviewing patients, monitoring drug therapy, consultation with house staff, and participation in conferences, seminars and rounds. Special projects assigned. CL PHARM

**175.26. Infectious Diseases—SFGH.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and consent of instructor.

**Kapusnik, Mills**

Students round with SFGH Infectious Diseases Consultation Service; evaluate antibiotic selection and monitor patients' therapy for efficacy and toxicity; serve as drug consultants to the medical staff on the service. (A special project relating to some aspect of infectious diseases and its therapy will be completed.) CL PHARM

**175.27. Burn Unit—STF.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.

**Winter, Damato, Jansen**

Students work in Burn Unit Satellite, monitoring patients' wound cultures, antibiotic therapy and drug serum levels, renal function, nutritional status and pain management. Student is involved with patient from surgical intervention through rehabilitation. CL PHARM

**175.30. Clinical Toxicology Pharmacology—SFGH.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and the comprehensive exam. Consent of instructor.

**Winter, Olson**

Students, in an interdisciplinary setting, assess clinical problems relating to the selection, pharmacodynamics and therapeutic merits of drugs and drug products. Activities include participation in rounds and conferences, collaboration on selected consultations, and retrieval and evaluation of drug literature. CL PHARM

**175.31. Clinical Pharmacology—S.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Winter, Kondo**

Students participate in the activities of the Division of Clinical Pharmacology. Activities include utilization of computerized patient drug profiles to monitor adverse drug reactions, and participation in conferences and seminars. Special projects assigned. CL PHARM

**175.33. Inpatient Family Practice—SFGH.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.

**Dong**

Students participate in the activities of the Family Practice Inpatient Service. Students will be respon-

sible for drug surveillance, drug monitoring, management consultations, and patient education. A minimum of two patient-specific drug consultations is required. CL PHARM

**175.34. Psychopharmacology—AS.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and consent of instructor.

**Winter, Raleigh, O'Brien**

Provides student opportunity to follow patients from admission until housed on treatment unit. Initial reasons for prescribing medication, acute illness, and in some cases, resolution of psychiatric symptoms will be observed by student. CL PHARM

**175.37. Inpatient Psychiatry—VA.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.

**Winter, Buffum and Staff**

Students participate on the inpatient acute care psychiatric ward. Activities include monitoring and interviewing patients, participation in team meetings, conferences, and pharmacy medication classes, presenting inservice programs to psychiatric staff. CL PHARM

**175.39. Oncology/Nutrition—STF.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and consent of instructor.

**Winter, Jacobs**

Work on oncology unit monitoring patients on chemotherapy, nutrition support, pain control, and antibiotic therapy. Gain in-depth knowledge of role of clinical pharmacist in a private hospital oncology unit. CL PHARM

**175.40. Thyroid—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Dong**

Students participate in the activities of the Thyroid Clinic, including patient monitoring, attendance at conferences and seminars. Work under supervision of the clinical pharmacists and physicians in the chronic management of selected patients. CL PHARM

**175.41. Dermatology—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132, and Pharmacy 155. Consent of instructor.

**McCart**

Experience in various subspecialty areas in the Dermatology Clinic. Students take medication histories, and instruct patients on proper medication usage. They participate in conferences, seminars and rounds, and provide therapeutic consultations where appropriate. Special projects assigned. CL PHARM

**175.42. Ob-Gyn—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Winter, Ruggiero**

Experience in various subspecialty areas in the Obstetrics and Gynecology Clinic. Students work with other health professionals and students in the clinic, participating in conferences and seminars. Prepare detailed consultations regarding drug therapy where appropriate. CL PHARM

**175.43. Diabetes—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**M. Kimble**

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

**175.45. Anticoagulation—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Kayser**

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

**175.46. Hematology/Oncology—UC.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Stagg**

Students participate in the daily activities of the Hematology-Oncology and/or Oncology Clinics. Special project is required. CL PHARM

**175.47. Rheumatology—UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**A. L. Leeds**

Students participate in the activities of the Rheumatic Disease and/or Arthritis Clinics. Special project is required, the subject of which shall be chosen by the student, with the consent of the preceptor. CL PHARM

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

**Winter, Lofholm**

Students interview patients, maintain medication records, explain medication usage to patients, and answer drug therapy questions generated by physicians, pharmacists and patients in a pharmacy located within a group medical practice. CL PHARM

**175.61. Co-op Pharmacy Clerkship.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter, Kamil, Olayos**

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

**175.63. Sunset Mental Hlth Clin Clkshp.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Winter, T. Wong, S. Kaufman, Bernstein, Baker**

Students work with the clinical pharmacist to evaluate psychiatric patients' response to drug therapy, and present consultations reviewing overall patient therapeutic management in weekly seminars. CL PHARM

**175.64. Haight Heroin Detox Unit Clkshp.** (1-8) Su, F, W, Sp. Prerequisite: Consent of instructor.

**Winter, Inaba, Hayner**

Students work as co-therapists under the supervision of the clinical pharmacist and physicians to develop individual therapy plans for drug detoxification. Where needed, students develop detailed drug information reports appropriate to specific patient care. CL PHARM

**175.65. Monteagle Pharmacy Clkshp.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter, Scheidtmann, Arauzo, Stein-Larson**

Practical experience in a hospital-owned community pharmacy offering progressive patient-oriented services, including drug monitoring, establishment and maintenance of medical profiles, patient counseling, drug information and inservice education. CL PHARM

**175.68. Senior Medication Education Prog.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter, L. Eng**

Students provide patient education and consultation to seniors and senior providers. Students will be able to utilize their skills, knowledge, and on-site training to prevent and intervene in geriatric drug misuse problems. CL PHARM

**175.70. Skilled Nursing Facility Clkshp.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.

**Winter, Nico, Rhoades, Fickle**

Students gain experience in both the skilled nursing facility and Pharmaceutical Services Pharmacy. Activities include evaluating drug therapy and other consultant roles in skilled nursing facility service, participation in unit dose medication system, and researching drug information. Special project required. CL PHARM

**175.79. Home Care Services.** (1-8) SS1, SS2, Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework. Consent of instructor.

**Winter, Alexander**

Students participate in Home Health Care Services, including fluid compounding, patient monitoring, multi-disciplinary meeting, interacting with nurses in the home setting, patients both pre- and post-discharge and with physicians in their office setting

to become familiar with all aspects of home specialty care. CL PHARM

**175.80. Parenteral Nutrition.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**McSweeney**

Students participate in IV fluid therapy selection and preparation, and monitor patients receiving intravenous medications. Conferences are held on topics related to problems in the use of intravenous fluid therapy in various disease states. CL PHARM

**175.82. IV Additives Clerkship-VA.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter, Korman, Wong and Staff**

An introduction to the administrative, professional and technical aspects of establishing and maintaining IV additive service. Students will participate in workshops and conferences. CL PHARM

**175.83. IV Additives & Unit Dose-VAM.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter, Erb, Carr, Lopez, J. Gee**

Students participate in centralized IV admixture and unit dose systems of distribution, with involvement in the decentralized clinical activities, including patient profile reviews. CL PHARM

**175.84. Drug Utilization Review-VAM.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Winter, Erb, J. Gee**

Students participate in establishing and presenting the protocol for a drug utilization review. Students will complete the study during the rotation, and present results to the physicians and other disciplines involved. CL PHARM

**175.87. Drug Utilization Review-UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.

**McCart**

Students design a drug utilization review. After receiving introductory material about purpose and value of such studies, students gather, evaluate, and interpret data for a final written report suitable for publication. CL PHARM

**175.90. Drug Information Clerkship-UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**L. Hart**

Advanced experience in drug information retrieval and analysis. Activities include participation in conferences, seminars and selective teaching assignments in Clinical Pharmacy 135. Special projects assigned. CL PHARM

**175.91. Drug Information Clerkship-AB.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and 135. Consent of instructor.

**Winter, Miller and Staff**

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

**175.93. Cost Control & Qlty Assurance.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter, Hirschman, Padelford**

Students observe and participate in a business-professional environment to understand the role of such an organization in delivery of optimal, cost-effective health care. Special emphasis on delivery of pharmaceutical services. CL PHARM

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

**Winter, Tatro**

Participate in activities of drug information service, including answering drug-related questions, writing a newsletter and drug review. Work under supervision of the director for drug information. CL PHARM

**175.99. Clinical Pharmacy Practice.** (0) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework and consent of instructor.

**Winter**

Supervised clinical pharmacy experience. Students develop and explore their roles in an interdisciplinary health care team, take medication histories, monitor drug therapy, provide patient drug education and research patient's specific drug information questions. CL PHARM

**176.01. Nephrology-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**D. Adler and Staff**

Students participate in the Renal Consult Service, Hemodialysis Unit and in the Renal Clinic with the medical and nursing staff. A special project selected by the student will be required. CL PHARM

**176.02. Pulmonary Medicine-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**D. Adler and Staff**

Students participate in the activities of the Pulmonary Medicine Consult Service, Chest Clinic and Asthma Clinic associated with the Pulmonary Division at University Hospital. CL PHARM

**176.03. Neonatal Care-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**D. Adler and Staff**

Students participate in the nursery's morning work rounds, attending high risk infant transportation and delivery. Students will read and evaluate current neonatal literature, and provide drug-related information to medical staff and parents. CL PHARM

**176.04. Pediatrics-UCSD.** (1-8) F, W, Sp. Pre-

requisite: Clinical Pharmacy 148.01A or 149.01.

**D. Adler and Staff**

Students participate in the activities of the Inpatient Pediatric Service. Activities include routine review of patients' charts, monitoring patients' response to drug therapy, attendance at conferences, seminars and rounds, and participation in selected therapeutic consults. CL PHARM

**176.05. Psychiatry-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**D. Adler and Staff**

Students participate in the Inpatient Psychiatric Service. A special project will be required, the subject of which shall be chosen by the student, with the consent of the preceptor. CL PHARM

**176.40. Anticoagulation-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**Weibert and Staff**

Students participate in the services of the anticoagulation clinic at University Hospital under the guidance of a clinical pharmacist. CL PHARM

**176.41. Hematology/Oncology-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**D. Adler, P. Lee**

Students participate in the activities of the Hematology-Oncology Consultation Service. Activities include review of patients' charts, monitoring patients' response to drug therapy, attendance at conferences, seminars, rounds and clinics, participation in therapeutic consultations and a special project. CL PHARM

**176.42. Hypertension-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**Weibert and Staff**

This hypertension clerkship is an outpatient, six-week elective requiring students to become actively involved in one clinic day per week, as well as in one student-preceptor conference per week. CL PHARM

**176.80. IV Additives & Fluid Ther-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**D. Adler and Staff**

Students participate in the activities of the Intravenous Additive Service at University Hospital. A special project will be required, the subject of which shall be chosen by the student, with the consent of the preceptor. CL PHARM

**176.81. Poison Information-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**Manoguerra and Staff**

Students participate in the services provided by the Poison Information Center for San Diego County, including receiving calls concerning ingestions and treatments, and seminars for the public and various school groups. CL PHARM

**176.82. Anticoagulation-VASD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**D. Adler and Staff**

Students participate in the services of the Anticoagulation Clinic under the guidance of a clinical pharmacist. CL PHARM

**176.83. Drug Information-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01.

**P. Anderson**

Students participate in the services provided by the Drug Information Service including receiving drug information requests, researching and writing formal responses. CL PHARM

**178.69. Skilled Nurs Facility-Pharmacare.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.

**Sauer, Menet**

Student participates in clinical and dispensing activities of pharmacy practice concerned with long-term care patients located within skilled nursing facilities throughout Sacramento area. CL PHARM

**185.05. Oncology-UC.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Ignoffo**

Students attend work rounds, house staff management rounds and teaching conferences; learn techniques utilized in caring for patients with hematologic or solid tumors. Emphasis on acute care of cancer patient: anti-emetic and pain control; hyperalimentation; treatment of hypercalcemia and infections. Project. CL PHARM

**185.06. Cardiothoracic Surgery-UC.** (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Guglielmo**

Students are responsible for patient interviewing, monitoring, rounds, and drug consultation. Patients are primarily pediatric with congenital heart defects and adults undergoing aorta-coronary bypass grafts and cardiac valve replacement. CL PHARM

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

**Hazlet, Winter**

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

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

**Winter, Lundergan, Rockwood**

Students will participate in the activities of the In-Patient Pediatric Service at Children's Hospital, Oakland. Emphasis will be placed on the develop-

ment of clinical skills in pediatric pharmacy, with a limited exposure to the development of essential administrative skills. CL PHARM

**185.23. Medicine-SRM.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Winter, Dennis, Sobel**

Students attend rounds, interview patients and take medical histories, monitor and evaluate drug therapy, anticipate and identify drug therapy problems, provide patient with specific information to health team members, provide drug and health information to patients, document clinical services. CL PHARM

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

**Winter, Levin, Millice**

Students participate in various clinical activities, including patient monitoring (antibiotics, nutritional support, pharmacokinetics), patient education and drug information. CL PHARM

**185.28. Psychiatric Care Unit-STF.** (1-8) SS1, SS2, Su. Prerequisite: Completion of all first-, second-, and third-year required course work and successful completion of the comprehensive examination.

**Winter, Closson**

The student will participate in an interdisciplinary team approach to psychiatric care, including drug therapy monitoring, daily interdisciplinary patient care rounds and patient evaluation. CL PHARM

**185.29. Intensive Care-STF.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor.

**Winter, Gatterer, Jansen**

Students work with clinical pharmacist in ICU, monitoring patient drug therapies throughout intensive illness course. Diseases of patients include acute failure of any physiologic system including cardiovascular, renal, hepatic, neurologic, and pulmonary. CL PHARM

**185.30. Geriatrics.** (4-8) Su, F, W, Sp. Prerequisite: Successful completion of all first, second, and third year required coursework and instructor approval.

**M. Winter, Carr-Lopez**

Student participates in screening of patients over 70 years of age, biweekly multidisciplinary geriatric team conferences, attending rounds, and weekly geriatric outpatient clinic. Most common problems relate to polypharmacy, poor nutrition, chronic diseases, depression, syncope, dementia, and pneumonia. CLIN PHARM

**185.33. Drug Information Service-VAM.** (1-8) F, W, Sp. Prerequisite: Fourth-year standing.

**Winter, Lopez, Gee**

Students participate in the activities of the drug

information center including providing consultation on drug therapy questions, evaluation of the medical literature, and preparation of a written project suitable for publication. CL PHARM

**185.34. Inpatient Clinical Pharmacy.** (1-8) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required course work and the comprehensive examination.

**Winter, Garich, Inouye**

The student will work with the clinical pharmacist and will be involved in the care of critically ill patients with multiple medical problems (i.e., sepsis, multiple organ failure) to provide optimal drug therapy by proper drug selection, avoiding drug interactions, and monitoring therapeutic outcomes. CL PHARM

**185.36. Nutrition Support-Queen's Medical Center.** (1-8) F, W, Sp. Prerequisite: Completion of all first-, second-, and third-year required course work and successful completion of the comprehensive examination.

**Winter, Garich, Schanzenbach**

The student will work with the nutrition support pharmacist and will be involved in the care of patients receiving parenteral nutrition to provide optimal therapy by maximizing nutritional supplementation with regard to the patient's specific disease state. CL PHARM

**185.38. Alcoholism & Poly-Drug Abuse-OC.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Winter, Furtado, Icazo**

Detoxification and management of alcoholism and poly-drug abuse. Emphasis on methods of acute detoxification and support services in rehabilitation of patients, including responsibilities of health care team members and consideration of physical and psychological consequences. CL PHARM

**185.66. Women's Health Center.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.

**Winter, Inaba, Dillon, Langden**

Students participate in functions of family planning-gynecological clinic, including management and handling of pharmaceuticals, monitoring BCP users under NP supervision, and participating in special projects. CL PHARM

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

**Winter, Robertson**

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

**185.70. Consultant Practice in Extended Care.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and the comprehensive exam. Consent of the instructor.

**Winter, Pratt, Henrietta**

Students will participate in drug regimen and internal nutrition reviews, nursing inservices and medication distribution reviews, and conduct medication administration error audits and special projects. Students may also be involved with the development of laptop computer consulting and nutritional and pharmacokinetic consults. CL PHARM

**185.71. Jail Medical Services-SF.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.

**Winter, Kubo-Hendriks, Lum**

Students gain experience managing medical problems of adult and adolescent patients at three jail sites; participate in daily clinic, medical screening, patient monitoring, conferences. Optional administrative or clinical project. CL PHARM

**185.72. Outpatient Forensic Psychiatric Service-CSP.** (1-8) F, W, Sp. Prerequisite: Completion of Clinical Pharmacy 130, 131, 132 and consent of instructor.

**Winter, Leung**

Students participate in the activities of an outpatient forensic mental health clinic including drug therapy monitoring, patient education and counseling, drug utilization reviews, medication clinics, medication groups, and inservice conferences. They will work under the supervision of faculty in the on-going management of selected mentally disturbed criminal-justice patients. CL PHARM

**185.75. Hospice-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, 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

**186.06. Clinical Pharmacokinetics-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and/or consent of instructor.

**D. Adler, J. Lane**

Discussion and review of pharmacokinetic principles in drug therapy relating to clinical cases at UCSD, including computer modeling, specific consults, and lectures to medical and nursing staff. A special project is assigned. CL PHARM

**186.07. Burn and Trauma Center-UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149 and/or consent of instructor.

**D. Adler, P. Anderson**

Participation in activities of Burn Unit including patient drug therapy monitoring, developing antibiotic therapy dosing recommendations, observing surgical and burn care procedures, conferences, seminars, and staff support conferences. Pharmacy conference and special project assigned. CL PHARM

**186.59. Medical Specialties—UCSD.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 149.01. Consent of instructor.

**D. Adler and Staff**

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

**187.01. Oncology—MHLB.** (1-8) W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.

**Shimomura, Diamant, Towne**

General orientation to the most frequently occurring diseases of oncology and hematology. Emphasis on developing working knowledge of chemotherapeutic agents. Emphasis on application of chemotherapy to oncologic diseases, preparation and administration of agents, side effects and toxicity, applicable pharmacokinetic calculations. CL PHARM

**187.02. Pharmacokinetics—MHLB.** (1-8) Su, F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.

**Shimomura, Ambrose**

Participation in all aspects of clinical pharmacokinetics service including information, consultations, and drug dosing regulations, under approved protocols. Involvement in analysis and evaluation of serum drug levels, particularly in patients with altered drug disposition. CL PHARM

**187.03. Anticoagulation—MHLB.** (1-8) W, Sp. Prerequisite: Clinical Pharmacy 148A and consent of instructor.

**Shimomura, R. Cook**

Participation in application of heparin and warfarin guidelines, which involve dosage adjustment, clinical assessment, data collection, medical audit. Students learn about management of patients with thromboembolic diseases through conferences, selected readings and clinical participation. CL PHARM

**187.04. Pediatrics—MHLB.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.

**Shimomura, Hodding, Folli, Rivers**

Participation in patient care rounds, monitoring case presentations, pharmacokinetic evaluations, literature research, and CPRs in neonatal and pediatric patients. Major pediatric disease states and appropriate drug therapy will be reviewed daily. Six to ten hours of medical seminars each week. CL PHARM

**187.05. Psychiatry—UCI.** (1-8) W, Sp. Prerequisite: Fourth-year standing and consent of instructor. **Shimomura, Plon**

Active involvement with patients and staff in acute care mental health facility. Students interview, interact with, and monitor patients. Thorough background into various forms of mental disorders, treatment and role of pharmacist will be presented. CL PHARM

**187.06. Pediatrics—UCI.** (1-8) W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.

**Shimomura, Zenk**

Students participate in activities of neonatal intensive care unit and inpatient pediatric services, monitoring patients, attending rounds and conferences. Emphasis will be on acute inpatient pediatric medicine and neonatology under supervision of pediatric clinical pharmacist and pediatricians. CL PHARM

**187.07. Ophthalmology—UCLA.** (1-8) W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Shimomura, S. Gardner**

Students participate in the activities of the Jules Stein Eye Institute, which include patient monitoring, attendance at conferences and seminars, and dispensing of ocular medications. Students work under the supervision of the pharmacist preceptor in learning the management of common diseases of the eye. CL PHARM

**187.08. Emergency Room—UCI.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Shimomura, R. Thomas**

Students participate in activities of emergency room and become familiar with the role of the pharmacist in this setting. Emphasis is on managing emergency conditions such as drug overdose, diabetic ketoacidosis, trauma, and cardiac arrhythmia. CL PHARM

**187.09. Fairview State Hospital Clkshp.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Shimomura, Shukur**

Students observe and participate in activities of the pharmacy and developmental services at the hospital. Emphasis is on diagnosis and management of neurological and genetic diseases such as seizure disorders and mental retardation. CL PHARM

**187.10. Long-Term Care Facilities.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Shimomura, Tobias**

Students observe and participate in monitoring geriatric patients in several long-term care facilities. Students will gain appreciation of the role of the consultant pharmacist and learn how to adjust drug therapy and dosages for geriatric patients. CL PHARM

**187.11. Medicine at La Habra Com Hosp.** (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Shimomura, Kitayama, Levesque**

Students participate in rounds with clinical pharmacists. They are involved in monitoring TPN solutions, screening patients with positive culture results to assure appropriate antimicrobial selection and dosage, adjusting serum levels of selected agents. CL PHARM

**187.20. Psychopharmacology—Patton.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.

**Shimomura, Luna**

Students exposed to psychopharmacology and participate in clinical pharmacy activities of a state psychiatric hospital; become familiar with federal and state regulations affecting pharmacy practice in skilled nursing, intermediate care, and acute psychiatric care facilities. CL PHARM

**187.21. Presbyterian Intercommunity Clin. Pharmacokinetics.** (1-8) Su, F, W, Sp.

**Shimomura, Zeisler**

Students will acquire the basic knowledge in applied pharmacokinetics necessary to provide consultative assistance to the physicians in developing an appropriate drug dose regimen. Emphasis will be placed on integrating knowledge of patients' problems with the knowledge of the drug's kinetic and pharmacologic properties. CL PHARM

**187.60. Home Care—Pharm Enterprises Inc.** (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132 and consent of instructor.

**Shimomura, Martinez, Henry**

Students round with health care team in hospitals, extended care facilities, and homes. Involved with monitoring total parenteral nutrition, chemotherapy, pain management, antibiotic therapy, and related services for home care patient. CL PHARM

**187.61. Foster Infusion Care.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework.

**Shimomura, Campbell**

Students will be exposed to various aspects of a home care pharmacy including pre-discharge patient assessment, patient training and education, manufacturing of parenteral solutions and home delivery, and patient follow-up visits. CL PHARM

**187.65. FHP-HMO Clinical Pharmacy Clerkship.** (1-8) F, W, Sp. Prerequisite: Completion of all first-, second-, and third-year required course work.

**Shimomura, 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 in-service 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, Vrabell**

An on-line experience in a drug information center serving a large multidisciplinary teaching hospital. Through a series of experience modules, in addition to day-to-day information requests received by the center, students will be expected to demonstrate competence in drug literature evaluation and drug information retrieval skills. CL PHARM

**187.83. IV Additives—UCLA.** (1-8) W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Shimomura, Casselman**

Clerkship provides an opportunity for students to develop and use skills relating to all areas of a centralized IV additive service. Students will make routine case presentations regarding patients receiving different types of intravenous therapy, including parenteral nutrition. CL PHARM

**188.01. Oncology—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work and consent of instructor.

**Sauer and Staff**

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

**188.02. Psychiatric Medicine—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 or 149 and consent of instructor.

**Sauer and Staff**

Students participate on the UCD Medical Center inpatient acute care psychiatric ward. Activities



include monitoring and interviewing patients, participation in team medical rounding, conferences, and pharmacy medication classes. Students will also present inservice program(s) to the psychiatric staff and pharmacy staff. CL PHARM

**188.03. Poison Information—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 or 149 and consent of instructor.

**Sauer and Staff**

Students participate in poison control center activities, e.g., answering phone, poison histories, monitoring patients, and giving poison prevention talks to the public and health care professionals. CL PHARM

**188.04. Neonatal Intensive Care—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year classes and consent of instructor.

**Sauer and Staff**

Students will become members of Neonatal Intensive Care Team, attend rounds, conferences, monitor and evaluate drug therapy, and provide drug therapy-related consultation. CL PHARM

**188.05. Medical Intensive Care—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 and consent of instructor.

**Sauer and Staff**

The student will work with pharmacist in the Medical Intensive Care Unit (MICU) and satellite pharmacy providing both clinical and distributive pharmacy services. Students will be exposed to drug therapy as it relates to different disease states seen in the unit. CL PHARM

**188.06. Surgical Intensive Care—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 or 149 and consent of instructor.

**Sauer and Staff**

The student will be placed as a liaison from the Department of Pharmacy to the Surgical Intensive Care Unit. He/she, under the supervision of a pharmacist, will assume responsibility for the pharmacologic management of critically ill patients. CL PHARM

**188.07. Gastroenterology—Clinical Nutrition—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work, Clinical Pharmacy 148 and consent of instructor.

**Sauer and Staff**

The clerkship affords the student an extensive experience in clinical pharmacy services to the Gastroenterology and Clinical Nutrition services at UCD Medical Center. The student will manage patients requiring parenteral nutrition and become an integral member of the Gastroenterology Consult Team. CL PHARM

**188.08. Microcomputer Applications in Pharmacy Practice—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year course work and consent of instructor.

**Sauer and Staff**

The student will identify and develop a solution for a problem in pharmacy practice that can be resolved by the use of microcomputers. In addition, the student will review the utility of various software used in pharmacy practice. CL PHARM

**188.09. Drug Utilization Review—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Fourth-year standing, completion of Clinical Pharmacy 148 or 149.

**Sauer and Staff**

Upon familiarization with the literature, the student will design and conduct a drug utilization review and present the results to the Hospital Pharmacy and Therapeutics Committee. CL PHARM

**188.10. Infectious Diseases—UCD.** (1-8) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required course work and comprehensive examination.

**Sauer, King**

Students will be active participants in the UCD Medical Center Infectious Diseases Consult Service. They will work closely with the Infectious Disease Pharmacist, evaluating antibiotic selection, monitoring therapy and providing drug information. A project will be completed during the rotation. CL PHARM

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

**B. Sauer, Dager, Inchiardi**

Students will be exposed to the application of pharmacokinetic principles while monitoring patients receiving a selected group of drugs. They will work under the supervision of an assigned clinical pharmacist. CL PHARM

**188.20. 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

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

**Sauer, Fox**

Student(s) will participate in selected areas of a home health care pharmacy. Students will develop skills in areas of parenteral and enteral nutrition, diabetic training, ostomy appliance applications, and durable medical equipment services in a home setting and a skilled nursing facility (convalescent hospital) setting. CL PHARM

**188.31. Pharmacy Consultation: Skilled Nursing Facility.** (1-8) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required course work and the comprehensive examination.

**Sauer, DiGiambattista**

The student will work in the long-term care setting. This includes learning federal and state regulations mandating frequency of drug regimen reviews and pharmacy systems operations. Projects may be DUR, inservices to nursing personnel or a newsletter. CL PHARM

**188.32. Medical Arts Parenteral Services—NMC Inc.** (1-8) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required courses and the comprehensive examination.

**Sauer, Okamoto, Dager**

Pharmacy students will participate in various operations within a home health care pharmacy. Subject areas include TPN, enteral nutrition, and home antibiotic therapy. Clinical monitoring of such patients will be emphasized. CL PHARM

**188.40. Veterinary Medicine—UCD.** (1-8) Su, F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year required coursework and consent of instructor.

**Sauer, Enos, Martin**

The student will participate in the clinical and dispensing activities of a pharmacy practice involved in veterinary medicine. Through observation and performance, students will explore the role of the clinical pharmacist in the care of large and small animals. CL PHARM

**198. Supervised Study.** (1-5) F, W, Sp. Staff

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

**450. Pharmacy Clinical Work.** (8-12) F, W, Sp. Prerequisite: Resident standing.

**Herfindal, Kishi and Staff**

Residents provide pharmacy service to patients in the wards and outpatient clinics including taking drug use histories, preparing and monitoring medication profiles, providing drug use information and consultation, and related activities. In addition, there are administrative and teaching responsibilities. CL PHARM

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

**Herfindal, Hart**

Residents provide drug information and consultative services on request. Activities include literature searches, preparing reports and other communications, and teaching and administrative responsibilities involving the Drug Information Analysis Service. CL PHARM

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

**Herfindal, Kishi and Staff**

Residents are responsible for carrying out assignments related to the administration of a modern hospital pharmacy service. Activities include preparation of budgets, supervision and development of staff, program planning and related administrative assignments. CL PHARM

**453. Research.** (1-5) Su, F, W, Sp. Prerequisite: Resident standing and approval of program director.

**Herfindal, Kishi and Staff**

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

## Community Dentistry

**168. Community Health Methods.** (2) W. . . . .  
Lecture 1 hour. Lab 3 hours.

**Silverstein**

Dental hygiene students work in the North Oakland community with the Children and Youth Project staff. Students are assigned to area schools where oral screening is done. Students also make home visits. DENT PUB HLTH

## Craniofacial Anomalies

**170.21. Craniofacial Function.** (2) F. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry programs or consent of instructor. Lecture 2 hours.

**A. Miller**

This course emphasizes those properties of the neuromuscular system that modify the craniofacial morphology and structure. GR DEVEL

**171. Diagnosis & Treatment.** (2) F, W, Sp. Lecture 1 hour. Seminar and clinic 3 hours.

**Chierici, Vargervik**

Diagnostic, preventive, and corrective methods relative to patients with congenital malformations of the orofacial region are discussed. GR DEVEL

**171.22. Craniofacial Anomalies.** (2) W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry programs or consent of instructor. Lecture 2 hours.

**Vargervik**

Demonstration of various types of craniofacial anomalies, assessment of growth and development of abnormal and normal craniofacial structures, diagnosis and evaluation of the more common anomalies and associated impaired functions and therapeutic needs of the individual patient. GR DEVEL

**186.01. Abnormal Orofacial Development.** (1) F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor. Seminar and clinic 3 hours.

**Chierici, Vargervik**

The pathogenesis of jaw deformities, dental malocclusions, and speech disorders associated with congenital malformation is discussed. Instruction in diagnosis and preventive and corrective treatment methods is given in the clinic. GR DEVEL

**Dental Auxiliary Utilization**

**120. Use of Dental Auxiliaries.** (1) Sp. Prerequisite: Restorative Dentistry 116. Lecture 1 hour.

**Bird**

Lecture, clinical, and field work covering the principles of dental ergonomics, operator and patient positioning, instrument transfer techniques, and an orientation to efficient chairside auxiliary utilization and their legal functions. DENT PUB HLTH

**Dental Health Education**

**150A-B. Intro to Dental Health Education.** (0-2) F, W. Lecture 2 hours.

**Ishida**

Course introduces the student to the basic concepts involved in the processes of learning, communication, and preventive oral health instruction. Emphasis will be placed on chairside education, preparation of individualized preventive oral health programs, and the development of psychosocial skills to facilitate patient learning and behavior change. DENT PUB HLTH

**160. Community Dental Health.** (2) W. Prerequisite: Dental Health Education 150A. Lecture 2 hours.

**Tobin**

Explores alternative, non-clinical roles for dental hygienists while introducing the student to program planning, implementation, evaluation, and financing

theories. Students are given the opportunity to develop program planning and evaluation skills with a selected community dental health education field project. DENT PUB HLTH

**161A-B-C. Curriculum Theory & Design.** (0-3) F, W, Sp. 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 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**

**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

**150A-B-C. Introduction to Dental Hygiene.** (2-2-2) F, W, Sp. Lecture 2 hours.

**Heckman**

Role of dental hygienist in dentistry studied; emphasis on objectives and principles of preventive periodontal treatment procedures. Various procedures and their rationale are integrated as related to clinical skills. Introduction to anatomy, physiology and pathology of oral cavity is included. 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

**155A-B. Intro to Clinical Dental Hygiene.** (2-2) F, W, F. Lab 3 hours. Clinic 3 hours. W: Lab 6 hours.

**Heckman**

Laboratory and clinical experiences in patient evaluation, record keeping, case presentation and instrumentation techniques for providing prevention-oriented dental hygiene treatment. DENT PUB HLTH

**155.01A-B. Clinical Dental Hygiene Seminar.** (0-2, 0-2) F, W.

**Heckman**

Clinical laboratory seminar to discuss clinical procedures and patient management following Dental Hygiene 155A-B. DENT PUB HLTH

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

**Heckman**

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

**159.01. Clinical Dental Hygiene Seminar.** (0.5) Sp. Seminar 1 hour given in alternate weeks.

**Heckman**

Clinical seminar to discuss patient management and clinical procedures. DENT PUB HLTH

**160B-C. Jurisprudence & Office Mgmt.** (1, 2) W, Sp. Lecture 1 hour W; 2 hours Sp.

**Kerner**

Introduction to the ethical, legal and professional responsibilities of the dental hygienist. Emphasis on the California Dental Practice Act, malpractice prevention and professional organizations. Integrated topics include practice management and career planning. DENT PUB HLTH

**161. Orientation to Dentistry.** (2) W. Prerequisite: Dental Hygiene 151. Lecture 2 hours.

**Poupard**

Continuation of Dental Hygiene 151. Course includes tooth transplantation and implantation, orthodontics, oral surgery, craniofacial anomalies, maxillofacial rehabilitation, and removable and fixed prosthodontics. DENT PUB HLTH

**162A. Research Design.** (2) F. Prerequisite: Dental Hygiene 152, Dental Public Health and Hygiene 121. Lecture 2 hours.

**Poupard**

Fundamentals of research design and the scientific method. Each student will expand her/his experiences from Dental Hygiene 152 and prepare a research protocol. DENT PUB HLTH

**162B-C. Research Design.** (0-4) W, Sp. Prerequisite: Dental Hygiene 162A. 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

**169A-B-C. Adv Clinical Dental Hygiene.** (3-5-2) F, W, Sp. Prerequisite: Dental Hygiene 155A-B, 155.01A-B and 159. Concurrent enrollment in Dental Hygiene 169.01A-B-C. Clinic 9 hours F; 15 hours W, Sp.

**Ishida**

Advanced clinical dental hygiene techniques including periodontal maintenance therapy, pain control, and soft tissue curettage in cases of moderate to advanced stages of periodontal disease. DENT PUB HLTH

**169.01A-B-C. Clinical Seminar.** (0-1, 0-1, 0-1) F, W, Sp. Prerequisite: Concurrent enrollment in Dental Hygiene 169A-B-C. Lecture variable.

**Walsh**

Lecture and seminar in clinic policies and procedures, dental hygiene treatment planning, periodontal maintenance therapy, clinical photography and related topics. Students will give case presentations during winter and spring quarters. DENT PUB HLTH

**188. Advanced 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

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

**Poupard**

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

**189.01. Mobile Clinic.** (0-3) SS. Clinic variable.

**R. Miller**

Clinical experience in mobile dental clinics. DENT PUB HLTH

**189.02. Community Health Clinic.** (0-2) F, W, Sp. Prerequisite: Winter or spring quarter standing of first-year dental hygiene curriculum; or fall, winter or spring quarter standing of second-year dental hygiene curriculum.

**Walsh**

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

**199. Laboratory Project.** (1-5) F, W, Sp. Lecture 1 hour. Lab 0-12 hours.

**Walsh**

A laboratory research project under direction of a

member of the faculty with the approval of the chairperson of the department. DENT PUB HLTH

**201A-B-C. Current Topics I.** (1-1-1) § F, W, Sp. Seminar 1 hour.

**Walsh, Ishida**

A seminar series for dental hygiene students enrolled in the Master's Program in Oral Biology with a special track in Dental Hygiene. Included are issues and research related to dental hygiene in a systematic manner. Current literature will be critically reviewed by students under faculty supervision, by faculty, or guest lecturers. DENT PUB HLTH

**202. Curriculum Theory and Design in Dental Hygiene.** (3) § F. Lecture 3 hours.

**Walsh**

Analysis of theories and research in education, with an emphasis on curriculum development, teaching strategies and evaluation methods for use in planning educational programs in schools of dental hygiene. DENT PUB HLTH

**203A-B-C. Current Topics II.** (1-1-1) § F, W, Sp. Prerequisite: DH 201A-B-C. Seminar 1 hour.

**Walsh, Ishida**

A seminar series for dental hygiene students enrolled in the Master's Program in Oral Biology with a special track in Dental Hygiene. Included are issues and research related to dental hygiene in a systematic manner. Current literature will be critically reviewed by students under faculty supervision, by faculty, or guest lecturers. DENT PUB HLTH

**301. Teaching Practicum in Dental Hygiene Education.** (1) § F, W, Sp. Prerequisite: Dental Hygiene 202. Lab 3 hours.

**Walsh**

Practical teaching experiences in selected dental hygiene courses under the supervision of dental hygiene faculty members. DENT PUB HLTH

## Dental Jurisprudence

**180. Dental Jurisprudence.** (1) W. Lecture 1 hour.

**F. Bradley**

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

## Dental Practice Management

**130. Dental Personnel & Patient Management.** (1) Sp. Lecture 1 hour.

**Bird**

Provides skills in communicating effectively with employees, patients, and others associated with the practice of dentistry. Personnel management, recruitment, retention, benefits and patient management, legal responsibilities, financial arrangements are covered. DENT PUB HLTH

**186. Adv Dental Practice Management.** (1.5) W, Sp. Prerequisite: DPH&H 121; Dentistry 4 Dean's course - Fall quarter, or permission of instructor. Class size limited to 15 per quarter. Lab 1 hour, seminar 1.5 hours.

**Bird**

Advanced concepts of dental practice management utilizing dental practice case studies, computer simulations and practice analysis techniques, and independent field study of an ongoing dental practice. Computer Lab training will be included. DENT PUB HLTH

## Dental Public Health and Hygiene

**116. Epidemiology & Preventive Dentistry.** (1.5) F. Lecture 1 hour. Lab 2 hours.

**Pollick and Staff**

Lectures and lab in preventive dentistry; plaque control; diet analysis, fluoride history; evaluation indices; dental health and disease in children; data analysis; dental screening in San Francisco schools; dental health education. DENT PUB HLTH

**117. Professional Issues in Dentistry.** (6.5) F. Lecture and seminar 16 hours.

**Wycoff, Gerbert, Pollick, Scherwitz, S. Silverstein, M. Walsh**

Lectures and seminars on professional issues in dentistry. Topics included are: modes of practice, dental needs of special groups, stress management, drug use/abuse, preventive dentistry and research design, ethics and history of dentistry. DENT PUB HLTH

**120. Behavioral Sciences.** (1) W. 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

**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 auxilia-

ries, and the delivery of preventive dental services. DENT PUB HLTH

**186. Multidisciplinary Geriatric Care.** (1.5) F, W, Sp.

**Shen**

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

**187. Multidisciplinary Geriatric Care.** (1.5-2.5) F, W, Sp.

**Shen**

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

**189. Research Methods and Design in the Behavioral Sciences: Seminar and Practice.** (1) F, W, Sp. Seminar 1 hour.

**Gerbert, Wycoff**

A seminar course designed to provide an overview of research designs, data collection strategies, methods of collecting and interpreting data, and assessment of threats to validity. Hypothesis development, protocol preparation, and grant writing will also be included. DENT PUB HLTH

## Dental Technics

**185. Intro to Basic Dental Technics.** (2) SS4. Lab 18 hours for three weeks.

**Hoskins**

Technical orientation to the basic technics taught in the first year of dentistry such as morphology, prosthodontics, biomaterials, operative dentistry. RESTOR DENT

## Dermatology

**First-Year Coordinated Instruction—Medicine**

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

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

**Odom**

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

**140.02. Off-Campus Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

**Wintroub**

Clinical clerkship in approved hospitals by special arrangement and approval of the dean and chairperson of the department. DERMATOL

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

**Hamlin**

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

**140.04. Inpatient Clinical Dermatology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Dermatology 140.01.

**Odom, Wintroub, Resnick**

Four-week block rotation. Students will work with inpatient Dermatology resident and share primary responsibility for inpatients, hospital consultations and psoriasis day care center patients. DERMATOL

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

**Odom, Wintroub, Resnick**

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

**150.01. Dermatology Research.** (0.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

**Wintroub**

A research project under the direction of a member of the faculty. DERMATOL

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

**Wintroub**

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

**199. Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor.

**Wintroub**

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

**400. Staff Conference.** (2) F, W, Sp.**Wintroub and Staff**

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

**401. Dermatopathology.** (2) Su, F, W, Sp. Lecture 2 hours.**LeBoit**

Lectures and demonstrations of the histopathology of skin diseases with special emphasis on correlation with clinical findings. Activities include the study of microscopic sections and discussions of material presented. DERMATOL

**402. Dermatological Literature.** (1) F, W, Sp. Seminar 1 hour.**Maibach and Staff**

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

**403. Specialty Seminar.** (2) F, W, Sp. Seminar 2 hours.**Wintroub and Staff**

Seminars include discussions, required reading, and reports on dermatology and related basic sciences such as embryology, mycology, histopathology, and parasitology in relation to dermatologic conditions; and oncology as it relates to the skin. DERMATOL

**404. Clinical Evaluation.** (1) F, W, Sp. Seminar 1 hour.**Wintroub and Staff**

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

**405. Research.** (3) Su, F, W, Sp. Lab 9 hours.**Wintroub**

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

**406. Related Science Seminar.** (10) Su, F, W, Sp. Seminar 1 hour.**Wintroub and Staff**

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

**407. Cutaneous Microbiology.** (2) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.**Aly**

Course is designed to familiarize dermatology resi-

dents 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. Prerequisite: Consent of instructor.**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. Prerequisite: Consent of instructor.**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<sup>12</sup>****150.01. Research.** (1.5 per week) F, W, Sp. Prerequisite: Consent of instructor.**R. Weiner**

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

<sup>12</sup>Courses in Endocrinology are offered through various departments. For further information regarding any of them, contact instructor in charge or Dr. Zach Hall, Chairperson, Department of Physiology, Interdisciplinary Program in Endocrinology. See also Biochemistry course offerings.

**Epidemiology and International Health****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 INTL HLTH

**101. Fundamentals of Epidemiology.** (3) Sp. Lecture 2 hours. Seminar 1 hour.**Ernst, Petrakis**

Basic epidemiologic and biostatistical methods. Emphasis is on the design of clinical trials and studies to investigate disease etiology, methods for evaluating screening and diagnostic tests, skills for critical review of the medical literature, and assessment of patient risk factors for use in clinical practice. EPID INTL HLTH

**140.02A. Clinical Clerkship Abroad.** (1.5 per week) Su, F, W, Sp. Prerequisite: Nine months of clinical work and Epidemiology and International Health 150.01, or consent of instructor.**R. Goldsmith, Braveman**

Clinical clerkship elective in a developing country. Students provide patient care at a medical school, provincial hospital, or rural health clinic for eight to twelve weeks. Arrangements may be made to participate in a public health or research program abroad. EPID INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**140.04. Refugee Screening Clinic-SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, Pediatrics 110, and consent of instructor.**De Lay**

Diagnosis and treatment of refugees from culturally diverse populations. Clinical experience with variety of tropical diseases and medical problems in family practice associated with these cultures.

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

Course covers classical and current literature concerning known and speculative mechanisms of hormone action. Major topics are: G proteins, adenylate cyclase, Ca<sup>++</sup> as a second messenger, oncogenes, growth factors, and steroid hormone action. PHYSIOLOGY

**203. General Endocrinology.** (5) § F. Prerequisite: Consent of instructor.**Dallman, R. Weiner**

A survey of the principles of endocrinology focusing on experimental approaches. The course includes lectures, reading of the primary literature and a laboratory problem. PHYSIOLOGY

**209. Molecular Endocrinology.** (4) § W. Prerequisite: Knowledge of biochemistry. Will not be given for less than 5 students. Offered in alternate years. Offered 1989-90. Lecture 4 hours.**Reudelhuber, W. Miller**

Application of recombinant DNA to study endocrine systems. Topics include basic molecular biology, cloning methods, RNA and DNA analysis, gene structure, and experimental design. Objective is to provide a working knowledge of molecular approaches to endocrine problems. PHYSIOLOGY

**210. Clinical Endocrinology Seminar.** (1) § F, W, Sp.**Shoback**

Clinical and basic seminar in endocrinology presented in a format which provides both lecture and discussion. Emphasis is placed on clinical applications of research at the frontier of modern endocrinology. PHYSIOLOGY

**217. Communication of Research.** (1) § Sp. Seminar 2 hours.**Nissenson**

Objective of the course is to enhance students' abilities to effectively present results of their research findings. Students will have the opportunity to strengthen their written and oral communication skills by presenting abstracts as well as formal seminars. PHYSIOLOGY

**224. Neuroendocrinology.** (4) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour. Conference 1 hour. Course will not be offered for fewer than four students.**R. Weiner, P. Goldsmith, Dallman**

Mechanisms for regulation of endocrine function by the central nervous system and the influence of hormones on the nervous system are considered in view of anatomical, biochemical, physiological, and behavioral data. PHYSIOLOGY

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

PHYSIOLOGY

Guided reading and possible attendance at Tropical Medicine-Diseases Clinics, UCSF, and Leprosy Clinic, SMC. EPID INTL HLTH

**150.01. Medicine in Developing Countries.** (1.5 per week) W. Prerequisite: Epidemiology and International Health 100 or consent of instructor.

**R. Goldsmith**  
Two-week block elective on the recognition and treatment of diseases of tropical and developing countries. The course is designed to prepare students for clerkships abroad in developing countries. Presentation format includes lectures, seminars, films, laboratory sessions, and supervised independent study. EPID INTL HLTH

**150.02. Research Abroad.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

**F. Dunn and Staff**  
Research abroad, usually in a developing country, under supervision of a member of the Epidemiology and International Health faculty. Guidance is available principally for epidemiological studies and for research in tropical medicine, medical parasitology, medical anthropology, and topics in international health. EPID INTL HLTH

**160.01. Cancer Epidemiology.** (1-2) W. Prerequisite: Epidemiology and International Health 101 or consent of instructor. Lecture 1 hour. Optional term paper for 2 units.

**Petrakis and Staff**  
Survey and discussion of milestone papers in the knowledge of the epidemiology of the major sites of cancer. Emphasis is on etiological and methodological aspects and applications to prevention. EPID INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**170.09. Psychiatric Epidemiology.** (1-2) F. Prerequisite: Training in epidemiology and consent of

instructor. Lecture 1 hour. Optional term paper for 2 units.

**F. Dunn**  
Survey of epidemiological and medical ecological approaches—historical and contemporary—to understanding of psychiatric disorders. EPID INTL HLTH

**170.10. Occupational Epidemiology.** (1-2) W. Prerequisite: Epidemiology and International Health 101 or 190. Seminar 1 hour. Optional term paper for 2 units.

**Mustacchi**  
Seminars on selected topics in occupationally-related diseases with specific emphasis on their epidemiologic, preventive, and compensation aspects. Discussion, with examples, of the concept of disability and of the physician's basic role and responsibilities in determining its level. EPID INTL HLTH

**170.11. Journalism for Health Sci Students.** (2) F. Seminar 2 hours.

**Gastel, Gardner**  
This elective is designed to introduce UCSF students to pertinent aspects of the craft of journalism. It includes discussions of basic skills and issues, guest sessions featuring science journalists, and workshops where class members discuss writing samples. Each student is required to write two articles. EPID INTL HLTH

**180.01. Tropical Medicine Clinics.** (1-2) § Su, F, W, Sp. Prerequisite: Epidemiology and International Health 100 and six months of clinical experience. Clinic 4-8 hours.

**R. Goldsmith, Frierson and Staff**  
Examination and treatment of patients in the Tropical Medicine Clinics under staff supervision. The clinics operate in conjunction with the Infectious Diseases Service; patients seen have both parasitic and other infectious diseases. EPID INTL HLTH

**180.04. Research Design.** (2-3) § Sp, SS1, F, W. Prerequisite: Consent of instructor. Seminar 2 hours. Optional term paper for 3 units.

**Hulley**  
Primary readings on diverse clinical topics from the recent literature will be discussed. The objective is to enhance skills in interpreting and designing clinical research. Major themes are the difficulty of demonstrating cause and effect, and the challenge of guiding health policy. EPID INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

**180.08. Epidemiology.** (2) § Sp. Seminar 2 hours, plus student presentation.

**A. R. Moss**  
Topics in epidemiology and epidemiological methods from the public policy point of view, including risks associated with low level radiation, and environmental and occupational carcinogenesis. Other topics may include the decline of heart disease and the politics of environmental epidemiology. EPID INTL HLTH

**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 INTL HLTH

**190. Introduction to Epidemiology.** (3) § Su, F, W, Sp. Lecture 3 hours.

**Staff**  
Introduction to the principles and methods used in epidemiology. Elements of research study design, critical analysis of journal articles, and application of epidemiological methods to common health risks in populations will be included. EPID INTL HLTH

**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 INTL HLTH

**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 INTL HLTH

## Family and Community Medicine

**110. FM Core Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of 20 weeks of clinical clerkship including Medicine 110.

**Rodnick, D. Mitchell**  
Students function as family/primary physicians in

ambulatory settings at affiliated residency programs. Family Practice: at SFGH, CHS in Santa Rosa, NAT in Salinas, VMC in Fresno, and SHH at Fort Ord. Primary Care Internal Medicine: at UC, SFGH, and MZ. FAM CM MED

**140.01A-B-C-D. Advanced Family Practice.** (1.5 per week) A, B, C, and D are offered in all of the following quarters: Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**A-Schott, B-Patinkin, C-Weaver, Slater, D-Rodnick, Mitchell**  
A-VMC in Fresno; B-NAT in Salinas; C-CHS in Santa Rosa; D-other sites. Comprehensive inpatient and outpatient experience in family practice. Students assume sub-intern responsibility for patient care. Community assignments may be individually arranged. FAM CM MED

**140.02. Community Health Programs.** (1.5 per week) Su, F, W, Sp. Prerequisite: Determined by student's clinical experience. Consent of instructor.

**Barbaccia and Staff**  
Elective clinical experience for four or more weeks in various community health projects in California and out of state as well. Programs include Indian Health Service, Diabetic Summer Camp, Asian Health Service, and varied neighborhood clinics. FAM CM MED

**140.03. Preventive Medicine Field Work.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing in School of Medicine and consent of instructor.

**Petitti**  
The student will be assigned to participate four days a week in patient care with a physician who emphasizes the integration of preventive medicine into clinical practice. One day of directed reading supervised by a member of the faculty. FAM CM MED

**140.04. Family Practice Preceptorship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

**Rodnick**  
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 fol-

lowing quarters: Su, F, W, Sp. Prerequisite: Consent of instructor.

**L. Crain**

A—San Francisco Bay Area; B—Fresno; C—other sites. Students are assigned to rehabilitation facilities for two to four weeks. Emphasis will be on the selection of patients who are suitable for rehabilitation and the interprofessional approach to rehabilitation. FAM CM MED

**140.07. Adv Family Prac Preceptorship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Advanced medical school standing and consent of instructor.

**Rodnick**

Students select from several urban or rural sites. Experience provides students the opportunity to participate in the care of patients and their families at the physician's practice, local hospital, and emergency room. FAM CM MED

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

**R. Goldschmidt, M. Johnson**

The Family Practice Inpatient Service at SFGH employs the family practice approach to hospitalized adult patients with diverse medical problems. Students function as members of the multidisciplinary inpatient team at a junior intern level. Attending rounds are held daily. FAM CM MED

**140.51. Emergency Medicine—VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, Obstetrics and Gynecology 110, Pediatrics 110 and Surgery 110.

**Knopp**

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

**140.60A-B-C-D. Clinical Geriatrics.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Neurology 110 and consent of instructor.

**Barbaccia, Werdegar and Staff**

A—San Francisco; B—Fresno; C—St. Mary's; D—Other. Students supervised by attending staff are assigned patients in clinical settings; outpatient departments, adult day centers, nursing homes, acute hospital; also home care. Students will attend multidisciplinary case conferences, didactic sessions, geriatrics consultation rounds. FAM CM MED

**140.70. Community Medicine in International Perspective.** (1.5 per week) Su, F, W, Sp. Prerequisite: Conversational command of language of country of placement and consent of instructor.

**Braveman, Goldsmith, Petitti**

A 4-12 week elective involving placement at a supervised primary care training and/or service site abroad. Placements will be made according to student interest and language capability, and according

to availability of appropriately supervised sites, mainly in Latin America. FAM CM MED

**150.01. Research.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

**Rodnick, Barbaccia and Staff**

Clinical epidemiology, health services, or behavioral science research approaches are applied in the study of selected areas in family medicine or community health. FAM CM MED

**160.01. Community Medicine Field Work.** (1.5-3) Su, F, W, Sp. Prerequisite: Medical student standing. Consent of instructor. Field work 4-8 hours.

**Barbaccia**

Non-block assignments to community health agencies where students have patient contact. Students choose an aspect of the agency's program for analysis. FAM CM MED

**160.02. Family Practice Continuity.** (2) Su, F, W, Sp. Prerequisite: Consent of instructor. Course must be taken for one full academic year.

**R. Goldschmidt**

Course will provide students the opportunity to follow a small number of patients and families in non-scheduled time during any medical school year. Attempts will be made to select families of special interest to the student; e.g., prenatal, adolescent, geriatric, minority. FAM CM MED

**160.03. Family Practice Preceptorship.** (1-3) Su, F, W, Sp. Prerequisite: Medical student standing. Consent of instructor. Field work 4-12 hours.

**Rodnick**

Non-block assignment with a family physician in a private office or community clinic for a minimum of four hours a week. Pre-clinical students observe their preceptors in order to gain an introduction to family care. FAM CM MED

**160.04A-B. Sports Medicine.** (2-2) F. Open only to students in School of Medicine or graduate students in School of Nursing. Lecture 2 hours, optional 4 hours clinic.

**Renner**

Athletic medicine ranging from youth athletics to senior participation. Emphasizes evaluation and prevention of injury, conditioning, and rehabilitation, directed at the community. Course consists of lectures and optional field work. FAM CM MED

**160.04B. Advanced Sports Medicine.** (2) W. Prerequisite: Family and Community Medicine 160.04A. Medical students only. Lecture 2 hours. Lab optional 1 hour.

**Renner**

Diagnosis, treatment, and rehabilitation of specific athletic injuries organized by anatomical areas, basically of the non-elite athlete. Emphasis on non-surgical treatment per European and American techniques using community resources and prompt surgical referral when necessary. FAM CM MED

**160.05. Mission Community Hlth Elective.** (1-3) Su, F, W, Sp. Prerequisite: Consent of instructor. Lab 2-6 hours. Field work 2-8 hours.

**D. Sanchez, D. Fink**

Explores health care attitudes, health problems and health care resources in the multi-ethnic Mission Area of San Francisco. Students receive clinical assignments in one or more community health and social service agencies. Field experience is analyzed in seminars and tutorials. FAM CM MED

**160.07. Family Health & Care.** (2) F. Seminar 2 hours.

**Ransom, Braveman, Segal**

Introductory principles of family medicine are discussed in class and discussion groups led by family physicians and family psychologists. Preceptorships with family physicians in private offices and community clinics. Each student will interview a family and present a case report. FAM CM MED

**170.01A-B-C. Special Issues in Health Care.**

(0-3) A, B, and C are offered in all of the following quarters: Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture and reading 1-3 hours.

**Rodnick and Staff**

Explores in systematic (lecture/readings/discussion) format new issues in health care or special content areas related to family and community health. Topics are developed and prepared according to faculty student interests. FAM CM MED

**170.02. Elderly Community Programs.** (2) W. Lecture 1 hour. Conference 2 hours. Enrollment limited.

**Barbaccia, Robinson, Weiss**

This course offers the student a survey of the aged in San Francisco. Lectures cover the socio-demographic, cultural, and health status factors of the city's aged. On-site conferences are held at representative programs and facilities serving the aged. FAM CM MED

**170.03. Developmental Disabilities.** (2-5) Su, F, W, Sp. Prerequisite: Consent of instructor. Field work 4-8 hours.

**L. Crain**

Resource overview with reading assignments correlated with field observations of the spectrum of community and institutional services, including comprehensive diagnostic, therapeutic, and counseling services for children and adults with developmental disabilities. FAM CM MED

**170.04. Rehabilitation in Primary Care.** (2) Su, F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours.

**Byl, Berrol**

Course exposes medical and other health science students to the principles of rehabilitation and common therapeutic strategies. Emphasis will be on the development of a basic theoretical foundation on which the student can build clinical rehabilitation skills in practice. FAM CM MED

**170.05. Rehabilitation Medicine.** (1-5) F, W, Sp. Prerequisite: Consent of instructor. Field work 4-8 hours.

**L. Crain**

Through individualized arrangements, course provides an introduction to the broad spectrum of rehabilitation services for children and/or adults with chronic or disabling diseases. FAM CM MED

**170.07. Communication with Latino Patients.** (2) F, W, Sp. Prerequisite: Medical student status. Lecture 2 hours. Lab 1 hour.

**Braveman, Koreck, Vasquez-Vega**

A practical course designed to develop basic skills in overcoming cultural and linguistic barriers to health care for Spanish-speaking persons. FAM CM MED

**171. Computers and Problem Solving with Applications to Health Care.** (2) W. Medical students only. Lecture 2 hours.

**Rodnick**

The nature of information processing; concepts of problem solving with the digital computer; representation of information within a computer system; introduction to programming and systematic programming methodology; examples of present and potential applications of computer systems to the medical environment. FAM CM MED

**172A. Legal Medicine—Basic Concepts.** (2) F. Lecture 2 hours.

**Tennenhouse**

Fundamental legal principles and procedures affecting medical practice, with emphasis on medical negligence; the physician's role in the litigation process; the areas of medical practice which most frequently involve litigation; and practical measures to minimize the risk of lawsuit. FAM CM MED

**172B. Legal Medicine—Practical Aspects.** (2) W. Lecture 2 hours.

**Tennenhouse**

Fundamental legal principles and procedures affecting medical practice, with emphasis on medical negligence; the physician's role in the litigation process; the areas of medical practice which most frequently involve litigation; and practical measures to minimize the risk of lawsuit. FAM CM MED

**173. Family Practice Seminar.** (1) W, Sp. Seminar 1 hour.

**J. Cook**

Exploration of various aspects of primary care as related to family medicine. A practicing family physician leads discussion of topics developed by the students. Introduction to the practical aspects as well as the issues and demands of family practice. FAM CM MED

**174. Family Medicine Concepts.** (2) W. Seminar 2 hours.

**Rodnick**

An exploration of the comprehensive role of the family physician in providing longitudinal health care. Students will learn to recognize priorities in

patient care, with an emphasis on the patient as a whole person. FAM CM MED

**175.01. Meaning of Being a Physician.** (1-3) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours.

**Guttentag**

Exploration of the theoretical premises of Western physicianship; relationship to other disciplines, such as theology and man's spiritual dimension, and other cultural attitudes; trendiness of the holistic approach; dynamics of patient-physician relationship; operational concepts such as the clinical entity. FAM CM MED

**175.02. Theoretical Problems of Medicine.** (1-3) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours.

**Guttentag**

Seminar on selected writings and of topics discussed in Family and Community Medicine 175.01. FAM CM MED

**180. Intro to Social & Preventive Med.** (1-2) F. Lecture and seminar 1-2 hours.

**Barbaccia**

Lectures and seminars introduce entering students to social, political, economic and environmental factors influencing health of the community and provision of care. Topics include preventive health care, health behavior and formulation of policy. FAM CM MED

**180.01. Seminar in Family & Health Research.** (2) F, W, Sp. Seminar 2 hours.

**L Fisher**

Review of theoretical and methodological alternatives for studying the family as a psychosocial unit, within the context of health and illness. FAM CM MED

**181. Clinical Preventive Medicine.** (2) Sp. Prerequisite: Second-year standing in the School of Medicine. First-year medical students with consent of instructor. Lecture 1 hour. Seminar 1 hour.

**Petitti**

Lecture-seminar on the basic concepts of preventive medicine, the integration of preventive medicine into clinical practice, the evaluation of preventive strategies in medical care, and the role of the practicing physician in influencing policies on prevention. FAM CM MED

**184. Contemporary Issues in Latino Health.** (2) Sp. Prerequisite: Medical student status. Seminar 2 hours.

**Braveman, Sanchez, Koreck**

An introduction to demographic, political/economic, anthropologic and sociologic issues of importance for the health of diverse Latino subcultures in the US. FAM CM MED

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

**Barbaccia**

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

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

**Werdegar and Staff**

Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. FAM CM MED

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

**Guttentag**

An exploration of the theoretical premises on which Western medicine rests: its relationship to other disciplines, the structure of patient-physician relationships, its operational concepts, such as optimal versus inadequate or superfluous examination, the concept of the clinical entity. FAM CM MED

**475.02. Theoretical Problems of Clin Med.** (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

**Guttentag**

Seminar on selected writings and of topics discussed in Family and Community Medicine 475.01. FAM CM MED

## General Dentistry

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

**Wycoff, Sinclair, M. Garcia**

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

## Genetics

**200A. Principles of Genetics.** (3) F. Lecture 3 hours.

**Kornberg, Herskowitz**

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

**215. Laboratory Rotation.** (3) F, W, Sp. Lab 9 hours.

**Guthrie**

A laboratory rotation course to familiarize first-year students with various approaches to research. Students are required to rotate through three different laboratories in at least two subject areas, and give an open seminar at the end of each quarter. BIOCHEM

**220. Current Topics.** (0.5) F, W, Sp. Prerequisite: Consent of graduate adviser in genetics. Seminar.

**Herskowitz and Staff**

Students will lead a discussion on a topic of special interest in genetics. A different faculty member will act as adviser each week. This is a required course each quarter for first- and second-year students in genetics. BIOCHEM

**224. Advanced Human Genetics.** (1.5) Sp. Lecture 1.5 hours. Offered in alternate years. Offered 1989-90.

**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

## 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 tech-

niques 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, W, or Sp. Lecture 1 hour. Optional seminar, conference, or independent study 1-2 hours.

**Risse, Pressman**

Course intends to develop a sense of historical perspective and the ability to assess present issues in the light of past experience. Readings and visual aids will focus on the scientific and social aspects of the health sciences. HIST HL SC

**180. Topics in the History of Dentistry.** (2-4) W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Seminar 1 hour. Term paper, independent study optional.

**Staff**

Presentation and historical analysis of issues and problems considered critical in the evolution of modern dentistry. Among the subjects to be considered are the relationship with other health professions, medical technology, and social policy. HIST HL SC

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

**Risse and Staff**

Historical research and/or directed reading under supervision of a faculty member with approval of the department chairperson. HIST HL SC

**200A. Introduction to Medical History.** (2-4) F. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).

**Risse**

General survey chronologically arranged from pre-history to the Renaissance. This course examines

the changing burden of disease across cultural and geographic boundaries and presents broad conceptual developments that in each period influenced the evolution of medical knowledge and professional activities. HIST HL SC

**200B. Introduction to Medical History.** (2-4) W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).

**Pressman**

Continuation of the general survey from the Renaissance to the end of the eighteenth century with special emphasis on the mechanical revolution in medical thought and the medicalization of European society. HIST HL SC

**200C. Introduction to Medical History.** (2-4) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).

**Pressman**

Continuation of the general survey from the nineteenth century to the present, examining in detail the emergence of scientific medicine, germ theory, medical technology, and twentieth-century therapeutics. HIST HL SC

**201A. Health and Plagues: Ecology and History.** (3-4) 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.** (3-4) W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour. Term paper (optional).

**Pressman**

Continuation of the general overview of health conditions in prominent past societies from the Renaissance to the Industrial Revolution, with emphasis on topics such as the appearance of syphilis, the transmission of epidemic disease to America, decline of plague. HIST HL SC

**201C. Health and Plagues: Ecology and History.** (3-4) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour. Term paper (optional).

**Risse**

Last segment of the general overview of health conditions in prominent past societies from the nineteenth century to the present with emphasis on the effects of industrialization on urban health, and the epidemiological transitions from acute infections to chronic degenerative diseases. HIST HL SC

**204A. Historical Research I** (2-4) F. Prerequisite: Consent of instructor. Seminar 2 hours. Optional term paper & reports.

**Risse, Pressman**

Introduction to medical historiography. Discussion of the different approaches employed in writing history: intellectual, social, history of disease, feminine perspectives, etc. HIST HLTH SCI

**204B. Historical Research II.** (3-4) W. Prerequisite: Consent of instructor. Seminar 2 hours. Optional term paper & reports.

**Risse, Pressman**

Introduction to research in medical history. Survey of bibliographical tools available to historians. Visits to archives and libraries in the Bay Area. Interviewing skills and preparatory research for oral history. HIST HLTH SCI

**204C. Historical Research III** (3-4) Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Optional research papers.

**Risse, Pressman**

Introduction to the craft of interpreting and writing medical history. Directed and assisted research and writing of historical topics. HIST HLTH SCI

**206. History of Psychiatry.** (2-4) F. Prerequisite: Consent of instructor. Lecture 2 hours, Seminar 1 hour

**Pressman**

Evolution of conceptions of madness and treatment of the mentally ill, from the Renaissance to the present. These developments are explored through a focus on cultural and social contexts. Particular attention is paid to the development of the insane asylum. HIST HLTH SCI

**209. How to Be a Physician.** (2-3) F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Term paper (optional).

**Guttentag**

Extended reading and conferences of History of Health Sciences 208. HIST HL SC

**210. Topics in the History of Nursing.** (2-3) Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Term paper (optional).

**Flood**

Selected topics in nursing history since the time of Florence Nightingale examined within the context of professional education, women's roles, and health care. HIST HL SC

**211A. History of Hospitals I.** (2-4) W. Prerequisite: Consent of instructor. Lecture 2 hours, seminar 1 hour

**Risse, Pressman**

Analysis of institutional developments from pre-Christian times, Christian hospitality and segregation schemes, to the secularization and medicalization of the hospital during the Enlightenment. HIST HLTH SCI

**211B. History of Hospitals II.** (2-4). Prerequisite: Consent of instructor. Lecture 2 hours, seminar 1 hour.

**Pressman, Risse**

Course begins with the early Industrial Revolution and ends with the modern technologically intensive institution that dominates current medicine. HIST HLTH SCI

**213. Topics in American Medicine.** (2-4) W. Prerequisite: Consent of instructor. 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

**219. Latin America: Hist of Hlth Issues.** (2-4) Sp. Prerequisite: Consent of instructor. Lecture 1 hour, seminar 1 hour. Term paper & class presentations optional for extra credit.

**Risse**

Examination of relationships between society, environment, and disease and their effects on pre-Columbian and colonial medical institutions in Latin America. HIST HLTH SCI

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

**Trauner**

Seminar allowing individual staff or guest lecturers to present selected topics in the history of the health sciences based on their current research and publications. HIST HL SC

**250. Research.** (1-8) F, W, Sp. Prerequisite: Consent of instructor.

**Staff**

Supervised independent research, including presentations and criticism of research sources, methods, and papers. HIST HL SC

**252. Women, Health, & Healing.** (2-4) F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).

**Staff**

Historical perspectives on women's health status as patients, providers, and reformers with a focus on nineteenth- and early twentieth-century developments in the US and Great Britain. HIST HL SC

**297. Special Study.** (1-4) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-2 hours. Term paper/independent study (optional).

**Staff**

Supervised independent study intended to provide directed reading in subject matter not covered in scheduled seminar offerings. HIST HL SC

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

**Staff**

For graduate students engaged in writing the thesis for the master's degree. HIST HL SC

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

**Staff**

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

## Human Development and 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.

**Blivise, Lieberman, Rosow, Kiefer**

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

**203. Prob Formulation & Res Design.** (3) F, W, Sp. Prerequisite: Consent of instructor.

**Rosow**

Students work on their own research interests in terms of problem formulation, research design, and/or operationalization. Emphasis dependent upon individual student needs. 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.

**Rosow**

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

**210. Socialization to Old Age.** (3) F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

**Rosow**

A seminar on adult socialization theory, with prospective socialization to an aged role as a special concern. Major issues involve norms for older people, the structure of socialization situations, and the pressure of variables normally affecting socialization in earlier status transitions. PSYCHIATRY

**214. Adv Personal Development** (2-3) Sp. Prerequisite: Hum Dev 204, or consent of instructor. Seminar 2 hours, optional extra unit.

**Kiefer**

The prerequisite, Hum Dev 204, combines study of mainstream theories of adult personality development with literary works as case material. This course, Hum Dev 214, proceeds to the study of alternative modes from lesser-known Western and Asian traditions—C.G. Jung, William James, Hindu, Buddhist, Taoist, and Judeo-Christian spiritualist writings—and literary examples based on these. PSYCHIATRY

**220. Pro-Seminar.** (1) F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, given in alternate weeks.

**Staff**

Students, staff, or guest lecturers present selected topics, based on their current research. PSYCHIATRY

**230. Research Project Seminar.** (6) F, W, Sp. Prerequisite: Graduate standing in Human Development and Aging Program, or consent of instructor. Seminar 4 hours. 6 hours additional research work.

**Bliwise, Rosow and 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 1989-90.

**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

**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

**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

**150.01. Laboratory Medicine—UC.** (1.5 per week) § Su, F, W, Sp. Prerequisite: Medicine 110.

**Shohet**

An intensive four-week seminar series, using patient data, designed to increase the student's ability to choose and interpret laboratory tests in a variety of clinical settings. The scope of tests discussed includes hematology, blood banking, clinical chemistry, and microbiology. 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

**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

**Clinical Pathology Seminar.** (2) § Su, F, W, Sp. **Marton, Gottfried, Nicoll**

Residents prepare summaries of selected clinical cases which present problems in correlation of clinical and laboratory data. Residents and faculty discuss relevant literature with special reference to technical aspects of laboratory procedures and interpretation of results. 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

**Medical Information Science**

**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. MED INF SC

**201. Content & Format of Information.** (2) § W. Prerequisite: Medical Information Science 290 or equivalent. Lecture 2 hours.

**Whiting-O'Keefe**

Consideration of the uses of medical information and its content, organization, and format to serve these uses. Particular emphasis is on the medical record systems (both computerized and manual) as a medium of medical information communication. MED INF SC

**202. Development of Medical Information Systems.** (2) § Sp. Prerequisite: Medical Information Science 201. Lecture 2 hours.

**Starkweather**

A review of past, present, and future medical information systems. Methods of design and development. Advantages of specific hardware and software choices. The use of existing tools and modular elements. Assessment of user needs in different settings. Meeting user needs for control and integration of computer-based services. MED INF SC

**210A. Systems Programming.** (4) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 3 hours.

**Wasserman**

Introduction to computer system architecture and

organization; operating systems; programming languages and their design. MED INF SC

**210B. Software Engineering.** (4) § W. Prerequisite: Medical Information Science 210A or equivalent, or consent of instructor. Lecture 3 hours. Lab 3 hours.

**Wasserman**

Language processors; software engineering concepts; specification and design of software systems; and software reliability. MED INF SC

**222. Systems Analysis of Medical Care.** (4) § W. Lecture 4 hours.

**Stimson**

Introduction to use of operations research and systems analysis as aids to design, management or evaluation of medical care systems. Application of operations research techniques to hospitals and other health care facilities is studied within a systems framework. MED INF SC

**225. Design of Systems.** (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours.

**Blois**

The design of previous medical information systems is examined. Successful components of the systems will be studied in depth, with respect to cost, performance, and acceptability. Field trips to existing systems will be made. MED INF SC

**235. Pattern Recognition in Medicine.** (2) § F. Lecture 2 hours.

**Hudson**

This course will analyze various techniques of pattern recognition including parameter estimation, Bayes classifiers, linear and nonlinear discriminants, supervised and unsupervised learning, clustering, and dimensionality reduction. These techniques will be illustrated as they apply to medical classification problems involving categorization into two or more classes. MED INF SC

**240. Data Base Management.** (3) § Sp. Prerequisite: Medical Information Science 210B or equivalent, or consent of instructor. Lecture 3 hours.

**Staff**

Course covers techniques for logical and physical data base organization, data independence, models of data, approaches to large scale data base management, security and privacy, data description languages, and query languages. MED INF SC

**247. Introduction to Med Info Sci.** (2) § F, W, Sp. Seminar 2 hours.

**Blois**

Course covers the treatment of a number of fundamental concepts which form the basis of information science, such as the nature of information and communication, and the problem of representation of knowledge. MED INF SC

**250. Research.** (1-8) § F, W, Sp.

**Staff**

MED INF SC

**290. Selected Topics.** (1-6) § F, W, Sp. Lecture 1 hour. Lab 0-15 hours.

**Staff**

Selected topics in medical information science. Subjects chosen will range from special topics in information science to hardware, software, and systems studies. MED INF 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. MED INF SCP

## Medicine

**110. Medicine Core Clerkship—UC-SFGH-VA-MZ-VAF-VMC.** (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and 132A-B-C. Open to UCSF students only.

**UC Papadakis, SFGH Haber, VA Tierney, MZ Woeber, VAF/VMC Freeman**

Students are part of the ward team with the housestaff and faculty. Bedside instruction in history-taking, physical diagnosis, selected seminars in general medicine including the psychiatric aspects of medicine, and presentations and demonstrations of relevant cases. MEDICINE

**111. Mechanisms of Disease.** (1.5 per week) Sp. Prerequisite: Fourth-year standing in medical school.

**Kane**

An in-depth study of the mechanisms involved in serious disease processes. Emphasis on acquisition of basic science information by physicians and on the logical development of nosology and planning of intervention based on principles drawn from basic science. MEDICINE

**112. Responsibilities of Med Prac.** (1.5 per week) Sp. Prerequisite: Medicine 110 and Surgery 110.

**Lo**

Course will discuss economic forces, ethical and legal issues, social and cultural factors, and governmental policies affecting medical practice. It will define professional responsibilities in the context of these influences and the resulting forms and trends in medical practice. MEDICINE

**131A-B-C. Intro to Clinical Medicine.** (1-2-3) F, W, Sp. Prerequisite: First-year standing or consent of instructor. Lecture 1 hour Sp. Section work 2 hours F, W; 4 hours Sp.

**B. Lewis**

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. Lec-

tures, clinical demonstrations, conferences, preceptorship in ambulatory care setting. MEDICINE

**132A-B-C. Intro to Clinical Medicine.** (8-8-3) F, W, Sp. Prerequisite: Anatomy 100, 102, and 103; Biochemistry 100A-B; Medicine 131A-B-C; Microbiology 100A and 100B (may be taken concurrently); Pathology 101, 102, and 103 (may be taken concurrently); Physiology 100 and 101; or consent of instructor. Lecture 5 hours, F, W; 1 hour Sp. Lab 2 hours F. Section work 4 hours F, Sp; 6 hours W.

**B. Lewis**

Continuation of interdepartmental course on pathophysiology of disease and techniques of collecting and assessing clinical data, including history-taking, examination of the patient, and use of laboratory tests. Lectures, demonstrations, bedside work, laboratories, conferences, and independent study. MEDICINE

**140.01. Acting Internship—UC-VA-MZ-VAF-VMC-SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of Medicine 110.

**UC Papadakis, VA Tierney, MZ Woeber, VAF/VMC Freeman, SFGH Haber**

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

**140.02. Off-Campus Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and approval of third- and fourth-year coordinator.

**Papadakis**

Clinical clerkships in off-campus hospitals approved by the department chairperson, third- and fourth-year coordinator and the dean. MEDICINE

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

**Shuman and Staff**

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

**140.04. Infectious Diseases—VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of Medicine 110 and Surgery 110.

**Jensen, Tager**

Clinical elective with inpatients and outpatients at VA. Students will see consults with clinical infectious disease fellow. Introduction to clinical microbiology and hospital epidemiology is included. MEDICINE

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

**Gregoratos**

Students participate in various clinical cardiological activities and attend related teaching conferences and patient rounds. They are instructed in electrocardiographic interpretation and participate in daily ECG teaching sessions. MEDICINE

**140.07. Oncology—SFGH.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110.

**Volberding**

Students will evaluate patients with malignant diseases under the supervision of oncology fellows and attending physicians. Students will see oncology patients in outpatient clinic and on the inpatient consultation service. In addition to a broad exposure to a wide range of malignant diseases, the students will be allowed to participate in the outpatient evaluation of patients with AIDS and Kaposi's sarcoma. MEDICINE

**140.08. Gastroenterology—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Ockner**

Students examine hospitalized and ambulatory patients, participate in their care, and present case summaries to supervising gastroenterology fellows and attending physicians. They attend all rounds and teaching conferences and may observe performance of various diagnostic and therapeutic procedures. MEDICINE

**140.09. Cardiology—MZ.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 140.01 or equivalent senior ward medicine experience. Consent of instructor.

**Mailhot, E. Cohen, Paley**

Students work up patients, follow through diagnostic procedures, phonocardiograms, echocardiograms, stress electrocardiograms, nuclear cardiology, and 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**

Under supervision of attending and house staff, students review pathology and relevant clinical laboratory data, interpret bone marrow slides, and work up and present patients on the wards and

outpatient clinics. Participate in conferences and seminars. MEDICINE

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

**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.

**Abrams, Clement, Kaplan**

Supervised by the attending physician, students will participate in the management of both inpatients and outpatients with HIV-related disease on the AIDS consult service and 1-2 days per week in the AIDS clinic. Participation in educational conferences encouraged. MEDICINE

**140.14. Sexually Transmitted Diseases.** (1.5 per week) Su, F, W, Sp. Prerequisite: Third-year standing. Lab 40 hours per week.

**Bolan**

Third- and fourth-year medical students will be trained in the diagnosis, treatment, and management of sexually transmitted diseases in the clinical setting. MEDICINE

**140.16. Hematology-SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.

**Embury**

Students work under supervision of fellows and faculty; review relevant clinical laboratory data; interpret bone marrow slides; see hematology patients in the outpatient clinic and the inpatient consultation service. Emphasis is on sickle cell disease, other hemoglobinopathies, and coagulation problems. MEDICINE

**140.18. Gastroenterology-VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**T. Boyer**

Students share consultations with GI fellows; work up patients on wards; see patients in outpatient; attend endoscopies; attend rounds and conferences. MEDICINE

**140.19. Cardiology-VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Karlner**

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) W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Minimum class size 12; maximum class size 20.

**Sebastian, Dohmann**

Pathophysiology of prototype cardiac diseases. Students learn decision making, technology application, critical literature analysis. Lectures, assigned reading, preceptor groups, workshops (heart sounds, chest X-ray, ECG interpretation, CPCs, and case discussions). Group discussion of students' research of controversial topics. MEDICINE

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

**Sebastian, Sleisenger, Dallman, Ries**

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

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

**Sebastian, Sleisenger**

Intensive review of renal physiology and pathophysiology. Two seminars per day. Two-volume syllabus of journal articles provided. Students participate in discussions and learn to evaluate literature critically. MEDICINE

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

**Sebastian, Sleisenger, L. Epstein**

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

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

**Sebastian, Sleisenger**

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

**140.22F. Pathophysiology-Therapeutics.** (6) W. Prerequisite: Medicine 110 or Pediatrics 110 or Surgery 110. Minimum class size 15; maximum class size 30.

**Sebastian, Benowitz**

Emphasis on applied pathophysiology and clinical therapeutics. Lectures and case-oriented workshops presenting the principles of therapeutics with application to specific therapy of common cardiovascular, respiratory, gastrointestinal and infectious diseases as well as diabetes. MEDICINE

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

**Sebastian, Sleisenger, Stobo**

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

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

**Siperstein, Sleisenger, I. Diamond**

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

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

**Sebastian, Strewler**

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

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

**Sebastian, Boyer, Sleisenger**

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

**140.22K. Pathophysiology-Pulmonary.** (6) F, W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.

**Sebastian, Sleisenger, Golden**

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

**140.22L. Pathophysiology-Nutrition.** (6) W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.

**Sebastian, Sleisenger, Baron**

Emphasizes biochemical and physiological concepts that determine nutritional management of problems in clinical medicine. Students attend lectures, participate in discussions and develop an independent ability to critically evaluate research literature in nutrition and apply information to management of specific clinical problems. MEDICINE

**140.23. Endocrine Metabolism-UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Karam**

Students based at Moffitt Hospital, twelfth floor south, act as assistants to residents and to endocrine fellows for consultations as well as for hospitalized endocrine patients; attend endocrine and metabolic clinics and seminars, and teaching exercises of endocrinology and metabolism, including Medicine Grand Rounds. MEDICINE

**140.24. Rheumatology & Immunology-UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Sack**

Familiarization with clinical manifestations, rheumatic disease therapy, immunologic disorders. Participation in in/outpatient clinics. Basic immunologic principles as related to clinically apparent immunologic dysfunction. Assignment of pertinent literature, lectures, and introduction to principles and practice of various immunologic testing. MEDICINE

**140.25. Renal Disease-SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**Humphreys**

Students work up and follow up patients with a wide variety of renal and electrolyte disturbances, and see outpatients in a weekly Renal Clinic. Cases are discussed with attending physicians daily. Stu-

dents also attend weekly Journal Club, Renal Grand Rounds, and Chief of Service Rounds. MEDICINE

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

**Uhley, Woerber**

Primary emphasis is on the management of critically ill patients in Coronary Care Unit and Intensive Care Unit. Includes teaching in the use of monitoring equipment, cardioversion, and related aspects of critical care medicine. MEDICINE

**140.27. Cardiopulmonary—C.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Keroes**

Students attend rounds in the Coronary Care Unit; receive instruction in cardiology, stressing electrocardiography; may work in the pulmonary function laboratory, and attend all regular teaching conferences and seminars. MEDICINE

**140.28. Infectious Disease—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**J. Mills**

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

**140.29. Hematology—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Shuman**

Students work up and present patients in the wards and outpatient clinics, participate in conferences and seminars, and learn the laboratory procedures applicable to their patients. MEDICINE

**140.30. 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 house staff/fellow-supervised consultations, three weekly clinics, biweekly rounds with senior staff, conferences on current research. Emphasis on clinical investigation of endocrine disorders in the General Clinical Research Center. MEDICINE

**140.31. Inpatient Cardiology—VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110. Fourth-year standing or consent of instructor. A four-week cardiology elective or Medicine 140.01 is recommended.

**Karliner**

Students work as interns in the Cardiology Service (which also includes General Internal Medicine patients) and attend all regular teaching conferences and seminars. MEDICINE

**140.33. Coronary Care at Moffitt/Long.** (1.5 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.

**Cogan**

The student will join the renal team and participate under supervision in evaluation and treatment of patients with renal disease or disorders of fluid, acid-base, or electrolyte balance. Emphasis is placed on pathophysiology, history-taking, physical examination, and treatment. MEDICINE

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

**Cheitlin, Rapaport, N. Goldschlager, Morelli, Dohrmann, Sung**

Students see patients in consultation on wards and clinics, read electrocardiograms, review cases with cardiac consultant, and attend all seminars and conferences. MEDICINE

**140.36. Emergency Medicine—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**Schumaker**

Students serve 40 hours per week as externs working and sharing responsibilities with residents and interns. Lectures and emergency medicine conferences are held but emphasis is on bedside instruction. MEDICINE

**140.37. Emergency Medicine—H.** (1.5 per week) S, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**Simon**

Students serve 40 hours per week as externs working and sharing responsibilities with residents and interns. Lectures and emergency medicine conferences are held daily. Emphasis is on bedside instruction. MEDICINE

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

**Boushey**

Students examine patients in Chest Clinic, on the wards and in RCU, and present them at ward rounds, pulmonary function and radiology conferences. They participate in pulmonary function testing and do assigned reading. MEDICINE

**140.41. Gastroenterology—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth-year students.

**Cello**

Students are responsible for evaluation and presentation of gastrointestinal patients on medical and surgical wards. Work-ups are thoroughly discussed with gastroenterology staff. Students may also ob-

serve GI techniques including sigmoidoscopy, colonoscopy, endoscopy, liver biopsy. Conferences held weekly in conjunction with Surgery, Pathology and Radiology. MEDICINE

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

**C. Becker**

Students evaluate patients in hospital and clinic settings, as well as consultations from SF Bay Area Poison Control Center. Students participate in patient-oriented rounds with special emphasis on toxicology, occupational medicine, drug overdose, drug abuse, and alcoholism, as well as treatment of cardiovascular and gastrointestinal diseases. MEDICINE

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

**Seaman**

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

**140.45. Endocrine Metabolism—VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and consent of instructor. Enrollment limited. Priority given to UCSF students.

**Siperstein, Arnaud**

An introduction to the diagnosis and treatment of endocrine-metabolism diseases. Areas covered are those endocrinopathies involving the major endocrine glands, as well as diabetes mellitus and hyperlipemias. Patients will be examined and treated in both the inpatient and outpatient services. MEDICINE

**140.46. Pulmonary Medicine—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year medical student in good standing.

**J. Murray, Hopewell, Sheppard**

Pulmonary disease, including clinical manifestations, basic pathophysiology, use and limitations of diagnostic studies and treatment. Experience will be gained by seeing patients on wards and through a series of ongoing conferences, ward rounds and review sessions under close faculty supervision. MEDICINE

**140.52. Clinical Renal Elective—VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Pollock**

Clerkship in clinical nephrology. Lectures, rounds, conferences, renal biopsy review. Patients with acute and chronic renal disease, acute and chronic dialysis patients, patients with fluid and electrolyte problems. Renal grand rounds, journal club, nephrology research, and renal pathophysiology conferences weekly. MEDICINE

**140.53. Infectious Disease—MZ.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**L. Drew, Mintz**

Clinical and laboratory experience providing integrated approach to infectious diseases. Emphasis on learning techniques in diagnostic microbiology (e.g., Gram stains, bacterial and viral cultures), and correlating these findings with clinical diagnosis and patient management. Clinical and laboratory research available. MEDICINE

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

**Busch**

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

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

**Feigenbaum, H. Brownstein**

Offers the opportunity for participation in various medically-oriented geriatric programs. Assignment to health care teams seeing patients at home, at MZ Geriatric Day Care Center, Geriatric Inpatient Assessment and Rehabilitation Unit; in-hospital consultations, and participation in multidisciplinary geriatric assessment. Supervision under MZ faculty and fellows in geriatric medicine. MEDICINE

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

**Deedwania**

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

**140.58. Pulmonary Disease—VAF.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.

**P. Baylor**

Students on Chest Service will have primary care responsibilities for medical inpatients under supervision of the Physician Director of the Respiratory Care Service. Instruction on topics such as the use of respirators, arterial blood gas sampling and techniques. MEDICINE

**140.59. Adv Medicine Clerkship KTU—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.

**Amend, Vincenti**

Rotation through an active renal transplant service including clinical immunology, clinical renal pa-

thophysiology, renal diagnosis such as X-ray, biopsy, scan. The student's experience in the care of inpatients and outpatients will encompass other internal medical problems as well. MEDICINE

**140.60. Rheumatology—VMC & VMF.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.

**Bertken**

Experience with rheumatic diseases and chronic musculoskeletal pain including arthritides and collagen-vascular disorders as seen in clinics. Develop skills in history-taking, physical examination, selection and interpretation of diagnostic procedures, approaches to management, including drug therapy. Supervision by division chief and faculty. MEDICINE

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

**R. Freeman**

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

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

**Savitsky**

Emergency room experience providing acute care to a mixed inner city and middle class population. Students see medical emergencies, minor trauma, and acute problems in a variety of disciplines including gynecology, ophthalmology, ENT, and orthopaedics. Attendance at specialty conferences encouraged. MEDICINE

**140.63. Advanced Medicine Clerkship—KP.** (1.5 per week) Su, F, W, Sp.

**Cannolly**

Fourth-year elective rotation for one month on medical wards at Kaiser Foundation Hospital in Oakland. Students will be integrated into the residency training program and will be involved in the care of hospitalized patients in an urban community prepaid health plan hospital. MEDICINE

**140.64. Cardiology—UC.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110.

**D. Perloff, Scheinman**

Instruction in interpreting electrocardiograms as well as other diagnostic procedures used in cardiology, such as echocardiography, exercise testing, use of radioisotopes, electrophysiologic, hemodynamic, and radiologic studies. Students regularly attend cardiac and hypertension clinics, cardiology conferences and rounds. MEDICINE

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

**Larson**

Students assigned to teams with first- and second-year residents, rounds with attending faculty, participation in daily conferences. Emphasis on pathophysiology of disease processes, management of acute medical problems. Refine skills in history-taking, physical examination, write-ups, presentations, techniques of diagnostic procedures. MEDICINE

**140.68. Infectious Disease—VMC & VAF.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Libke**

Management of common and unusual infectious diseases. May include use of anti-microbials in presence of impaired renal or hepatic function, treatment of infection in immunologically compromised host, etc. Participation in patient evaluation, treatment follow-up, ward rounds, conferences. Microbiology laboratory can be arranged. MEDICINE

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

**Grayson**

Participation with house staff in patient care on CCU, ICU, medical wards, outpatient clinics. Introduction to invasive and non-invasive diagnostic procedures, techniques of management in care of hospitalized and ambulatory patients. Attend ECG interpretations, CCU rounds, consults, and teaching conferences. MEDICINE

**140.70. Hematology, Oncology—VMC & VAF.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing and Medicine 110.

**Stolberg**

Students participate in the work-up of hospitalized patients and follow up progress of patients in specialty clinics seen in consultation by hematology oncology staff. Clinical experience is augmented by reading program, slide review sessions, tumor board meetings and specialty conferences. MEDICINE

**140.71. Pulmonary Disease—VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.

**Lohne, Hirasuna**

Evaluation and management of adult patients with respiratory diseases, supervised by house staff and faculty, Pulmonary Medicine section. Emphasis on physical examination of chest, interpretation of X-ray, arterial blood gases, pulmonary function studies. Gain familiarity with respirators and other aspects of respiratory care. MEDICINE

**140.72. Gastroenterology—VAF.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing and Medicine 110.

**Gitlin**

Participation in evaluation of patients with gastrointestinal problems (gastroscopies, ERCP, colonoscopies, liver biopsies, peritoneoscopy, bowel biopsies) on wards and in outpatient clinic. Experience

includes demonstration of investigation (acid perfusion and others), weekly clinical conference, liver histology, and tutorial discussion sessions. MEDICINE

**140.73. Rheumatology & Immunology—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**I. Goldstein, H. D. Perez**

Students will be assigned inpatients and outpatients for work-up and management under the supervision of fellows and attending physicians. Students also will participate in clinical rounds, clinical conferences, research seminars and journal clubs. MEDICINE

**140.74. Medical Consultation—SFGH.** (1.5 per week) Su, F, W, Sp.

**Cooke**

Clerkship in Medical Consultation at SFGH. Also includes a half-day clinic in which preoperative medical evaluations are performed for patients about to undergo elective surgery. MEDICINE

**140.75. Inpatient Medicine—K.** (1.5 per week)

Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**Fessel**

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

**140.77. Endocrinology/Diabetes—Fresno.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Shipp**

Students gain extensive experience in care of patients with diabetes and other endocrine disease through active participation in special diabetes inpatient units, ward consultations, diabetes and endocrine clinics, and patient educational programs located at Valley Medical Center and in the community. MEDICINE

**140.78. Critical Care Medicine—VMC.** (1.5 per week) Su, F, W, Sp.

**Hirasuna**

Students participate in the management and evaluation of critically ill patients in the Medical Intensive Care Unit. This includes the interpretation of laboratory results, blood gases and chest X-rays and the use of mechanical ventilation and hemodynamic monitoring. Supervision is by full-time faculty with senior Medicine residents. MEDICINE

**150.01. Research in Medicine.** (1.5 per week)

Su, F, W, Sp. Prerequisite: Consent of faculty member in charge of student's research project and approval of third- and fourth-year coordinator.

**Papadakis**

Students continue previously initiated research projects under the guidance of faculty members. MEDICINE

**150.03. Cancer Viruses.** (1.5 per week) Su, F, W, Sp. Prerequisite: Basic course in microbiology.

**J. A. Levy**

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

**160.03. Clinical Skills Seminar.** (1) W, Sp. Prerequisite: Second-year standing or consent of instructor. Lecture 1 hour.

**B. Lewis, Z. Frazier**

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

**160.04. Med Science & Clinical Problems.** (2) Su, F, W, Sp. Prerequisite: Third-year standing and enrollment in the Medical Scientist Training Program. Lecture 1 hour. Seminar 1 hour.

**D. Cox**

The course is designed to develop a historical perspective of what and how clinical problems can be approached in a basic medical research laboratory and to develop, by example, an analytical approach relating basic medical research to clinical medicine. MEDICINE

**160.05. Clinical Occupational Medicine.** (1-5) F, W, Sp.

**La Dou, Garb**

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

**160.10. Clinical Medical Ethics.** (1) F. Seminar 1 hour.

**Lo**

Introduction to clinical medical ethics through discussion of the medical literature. Active class participation and critical reading of articles will be required. Topics will include life-sustaining treatment, dilemmas regarding HIV infection, care of critically ill neonates, and allocation of resources. MEDICINE

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

**Papadakis, Bartnof**

A preclinical multidisciplinary survey course in lecture format on the biomedical, clinical, and social manifestations of the pandemic caused by the human immunodeficiency virus. The course includes lectures by twenty UCSF subspecialists and two panels: SF Systems of Care and Persons with AIDS/ARC. MEDICINE

**170.04. EKG Fundamentals—VA.** (1) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. Lecture 1 hour.

**M. Goldman**

Instruction in basic electrophysiologic principles and interpretation of electrocardiograms. MEDICINE

**170.05. EKG Interpretation.** (1) W. Prerequisite: Medicine 131A. Lecture 1 hour.

**Rapaport**

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

**170.07. Non-Invasive Lab Cardiology.** (1) Sp. Prerequisite: Medicine 170.05.

**Rapaport**

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

**170.09. Current Topics in Med Science.** (2) Su, F, W, Sp. Lecture 2 hours.

**Cox, Nestle**

Focus on research interests of UCSF faculty. Provides broad introduction to campus research, practice in reading and analyzing research publications. Speaker's talk includes discussion of personal background, present research, background description on research area, and discussion of future research plans. MEDICINE

**170.10. Intro to Occupational Medicine.** (1) W. Lecture 1 hour.

**LaDou**

Practice of occupational medicine as related to the prevention, recognition, and treatment of disease and injuries resulting from employment. Interaction of economic, political and social forces bearing on worker health problems. Effects of the enterprise on the community and consumer. MEDICINE

**170.11. Introduction to Environmental Medicine.** (1) Sp. Lecture 1 hour.

**La Dou**

Tutorial concerned with environmental medical problems. MEDICINE

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

**Feigenbaum**

Course covers the physiology and psychology of normal aging, health care problems of the elderly, including confusional states. Techniques of rehabilitation medicine, use of medications, health care policies, multidisciplinary geriatric health care teams, and sexuality in old age are reviewed. MEDICINE

**170.15. Art and Science of Health Services Research.** (2) F. Prerequisite: Graduate training in applied health services research, e.g., public health, medical sociology, health economics, preventive medicine.

**Luft**

This course covers issues from the design and writing of grant proposals to choice of data, analytic

techniques, presentation of results, publication strategies, and project management. Students should be involved in a dissertation or major project. MEDICINE

**180. Industrial Toxicology.** (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.

**Osterloh**

To provide understanding of basic principles of toxicology as related to work environment and workers' health. Emphasis is on chemicals including heavy metals and pesticides, methods of surveillance, principles of acute and chronic toxicity testing. Includes lectures, student presentations, and discussion. MEDICINE

**180.02. Theory of Biomedical Ethics.** (1-2) § W. Prerequisite: Graduate standing and consent of instructor. Seminar 2 hours. Paper required for 2 units.

**Atchley**

A brief introduction to Bioethics, followed by a case-oriented approach to the understanding and use of those basic bioethical principles necessary to understand and resolve frequently encountered bioethical dilemmas in medical practice. MEDICINE

**188.01. Nation's Health.** (2) § F, W, or Sp. Lecture 2 hours.

**P. Lee and Staff**

Course will address health policy issues related to the health status of the population, the determinants of health, and health care. Jointly offered with Sociology 160 and Sociology 220. MEDICINE

**188.02. Health Policy Research Seminar.** (1-2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-2 hours. Seminar 1.5 hour.

**P. Lee, Halfon**

An introduction to the application of policy research methods to current policy issues; an interdisciplinary seminar. MEDICINE

**188.03. Economics of Health.** (2) § F, W, or Sp. Lecture 2 hours.

**P. Lee, Luft**

Basic economic concepts and tools as applied to problems in the health care system. Topics to be covered include measurement of output; demand for care, insurance, and incentives; supply of physicians' services; health sector planning; and an alternative view of the system. MEDICINE

**198. Supervised Study.** (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor preceptor and approval of third- and fourth-year coordinator.

**Papadakis**

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

**199. Laboratory Project.** (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor preceptor and approval of third- and fourth-year coordinator.

**Papadakis**

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

**200. Health & Aging.** (2-4) § W, Sp. Prerequisite: Graduate standing. Consent of instructor. Lecture 2-4 hours.

**P. Lee, H. Lipton**

Examines the health status of the aged in the U.S. in light of relevant biological, behavioral, sociocultural and environmental factors. Social, cultural and economic factors affecting the organization, financing, and delivery of health care to the aging population are examined. MEDICINE

**400. Medical Staff Conferences.** (2) F, W, Sp. UC R.K. Root, SFGH Rapaport, VA Sleisenger

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

**401. Interdept Clinical Correlation.** (4) F, W, Sp.

**R. K. Root**

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

**402. Medical Literature Seminar.** (1.5) F, W, Sp.

**VA Sleisenger**

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

**403. Specialty Seminar.** (2) F, W, Sp.

**R. K. Root**

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

**404. Specialty Seminar.** (4) F, W, Sp.

**SFGH H. Williams and Staff**

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

**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 postmortem studies. Conferences include reference to the literature, clinical demonstrations, and laboratory work. MEDICINE

**408. EKG Interpretation.** (2) Su, F, W, Sp.

**Sokolow**

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

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

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

**451. Clinical Medicine-MZ.** (10) Su, F, W, Sp. Woeber

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

**452. Clinical Medicine.** (1.5 per week) Su, F, W, Sp.

**VAF Rosenstiel**

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

**460. Clinical Primary Care.** (1.5 per week) Su, F, W, Sp.

**Crede and Staff**

Interns in the Primary Care Track of Internal Medicine are responsible for patient care in a multispecialty primary care clinic. Other rotations include those common to the regular Medicine Internship

Program as well as related clinical services such as Dermatology, Neurology. MEDICINE

**461. Clinical Primary Care.** (1.5 per week) Su, F, W, Sp.

**Crede and Staff**

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

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

**SFGH H. Williams**

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

**491. Clinical Medicine.** (1.5 per week) Su, F, W, Sp.

**SFGH H. Williams**

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

**495. Clinical Medicine.** (1.5 per week) Su, F, W, Sp.

**UC R. K. Root**

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

**Microbiology and Immunology**

**100A. Medical Immunology.** (2) Sp. Prerequisite: Biochemistry 100A-B. Lecture 2 hours. Equivalent to Microbiology 121 and 190A.

**W. Levinson**

Lectures on the fundamentals of immunology. Small group seminars on patient-related problems in this field. MICROBIOL

**100B. Medical Microbiology.** (6) F. Prerequisite: Biochemistry 100A-B. Lecture 4 hours. Lab 3 hours. Conference 1 hour. Equivalent to Microbiology 190B.

**W. Levinson**

Pathogenesis of infection by bacteria, fungi and viruses. Essentials of diagnosis, treatment, and epidemiology of diseases. Laboratory demonstrations and exercises of essential medical skills. Problem-solving exercises and small group seminars involving clinical cases. MICROBIOL

**116. Microbiology and Immunology in Dentistry.** (6) W. Lecture 4 hours. Lab 6 hours.

**Felton, DeFranco**

Comprehensive presentation of microorganisms including bacteria, fungi, viruses; fundamentals of infection and resistance, immunology, disinfection, sterilization, and antimicrobial agents. Laboratory studies and demonstrations on indigenous oral flora and applications of microbiology to dentistry. MEDICINE

**120. Microbiology in Pharmacy.** (3) Sp. Lecture 3 hours.

**Lucero**

Fundamentals of microbiology for pharmacy students with emphasis on mechanisms of disease production by bacteria, fungi and viruses. Antibiotics, mode of action and genetics, toxins, indigenous flora, hospital infections, immunization. MICROBIOL

**121. Immunology.** (2) Sp. Prerequisite: Biochemistry 120A-B. Required course for students in the School of Pharmacy. Lecture 2 hours.

**Brodsky**

Lectures on the fundamentals of immunology, drugs in hypersensitivity and immunosuppression. MICROBIOL

**127. Microbiology Laboratory.** (2) § Sp. Prerequisite: Concurrent enrollment in Microbiology 120. Lab and conference 4 hours.

**Lucero**

Morphology, physiology, and immunology techniques used in laboratory diagnosis of selected bacterial diseases. Antibiotic susceptibility, disinfection, and sterility exercises. Demonstration on virology. 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 1989-90.

**DeFranco, J.W. Goodman**

Course covers chemical and genetic basis of immunogenicity, properties of immunocompetent cells, cell interactions in the immune system, and regulatory circuits. MICROBIOL

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

**G. Davis**

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

**208. Molec Biology of Animal Viruses.** (3) § Sp. Prerequisite: General knowledge of nucleic acid structure and chemistry and multiplication of viruses. Lecture 1.5 hours. Seminar 1.5 hours. Offered in alternate years. Not offered 1989-90.

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

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

**209. Special Topics in Immunology.** (1-3) § F, W, Sp. Conference 1 hour.

**J.W. Goodman and Staff**

Small group tutorial in which topics and correlative reading will be selected by students for discussion with individual faculty members. MICROBIOL

**210. Research Problems in Mycology.** (1-5) § F. Prerequisite: Microbiology 100A, 100B and 206. Lab and conference.

**Halde**

Participation in research problems in a mycology laboratory. This is not a structured laboratory meth-

ods course, but rather a practical research experience involving basic research with pathogenic fungi. MICROBIOL

**215. Laboratory Rotation.** (2-4) § F, W, Sp.

Prerequisite: Consent of instructor. Lab 6-12 hours.

**DeFranco, Ganem**

Laboratory research for one quarter with a departmental faculty member to familiarize new graduate students with experimental approaches to microbiological or immunological problems of current interest. MICROBIOL

**220. Selected Topics Seminar.** (1) § F, W, Sp. Seminar 1 hour.

**Staff**

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

**221. Graduate Research Seminar.** (1) § Sp. Seminar 1 hour.

**N. Craig, DeFranco**

Seminar series in which graduate students present their thesis research. MICROBIOL

**250. Research.** (1-8) § F, W, Sp.

**Staff**

MICROBIOL

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

**Staff**

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

**Neurological Surgery**

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

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

**C.B. Wilson**

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

**140.02. Off-Campus Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110.

**Pitts, P. Weinstein**

Clinical clerkship in approved hospitals by special arrangement, and approval of the dean and chairperson of the department. NEURO SURG

**150.01 Research in Neurosurgery.** (1-5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor and department. Passing grade in NB Examination Part 1. 40 hours per week.

**Staff**

Research project under the direction of a member of the faculty. Extensive background reading will be required and discussion of important topics will be held at weekly laboratory and program project research conferences. NEURO SURG

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

**Staff**

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

**199. Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor.

**Pitts**

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

**400. Staff Conference.** (2) Su, F, W, Sp.

**C.B. Wilson**

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

**402. Clinicopathological Conference.** (2) Su, F, W, Sp.

**R. Davis, C.B. Wilson**

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

**403. Literature Review.** (1) Su, F, W, Sp.

**Pitts**

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

**450. Clin Neurological Surgery—UC.** (10) Su, F, W, Sp.

**C.B. Wilson**

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

**451. Clin Neurological Surgery—SFGH.** (10) Su, F, W, Sp.

**Pitts**

Residents are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examinations, laboratory tests, and consultations. In addition, the senior resi-

dent 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. Acting Internship Neurology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110. Approval of the chairperson of the department.

**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. Neurology Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor.

**R. Fishman, Goodin**

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.

**Faden**

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 ex-

pected 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.** (5) W. Prerequisite: First-year Dentistry standing. Lecture 4 hours. Lab 4 hours.

**Sargent**

Structure and function of the nervous system. The course will cover the fundamentals of neurophysiology and the organization of the nervous system. Emphasis will be placed on oral cavity. STOMATOLOGY

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

**Sargent**

Structure and function of the nervous system. The course will cover the fundamentals of neurophysiology and the organization of the nervous system. Emphasis will be placed on oral cavity. STOMATOLOGY

**201. Principles of Neuroscience.** (4) § F. Prerequisite: Admission to Neuroscience Program or permission of instructor. Lecture 2 hours. Conference 2 hours.

**Hall and Staff**

A one quarter introductory course emphasizing the basic principles of cellular, molecular, and integrative neuroscience. The course will provide a general background in neuroscience by intensively treating selected topics that illustrate the questions and methods of modern neurobiology. 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

**222. Advanced Cellular Neurobiology.** (3) § Sp. Prerequisite: Neuroscience 201A-B-C and consent of instructor. Seminar 3 hours.

**Staff**

Given each year in the spring quarter on a rotating basis. Representative topics include neurobiology of peptides, ion channels, sensory transduction. Seminar format with students reading and presenting papers from the current literature. PHYSIOLOGY

**224. Advanced Neurochemistry.** (3) § W. Prerequisite: Neuroscience 201A-B-C and consent of instructor. Seminar 3 hours.

**Staff**

Given each year in the winter quarter on a rotating basis. Representative topics include neuroimmunology, molecular neurobiology, cell surface in development. Seminar format with students reading and presenting papers from the current literature. PHYSIOLOGY

**226. Advanced Integrative Neurobiology.** (3) § F. Prerequisite: Neuroscience 201A-B-C and consent of instructor. Seminar 3 hours.

**Staff**

Given each year in the fall quarter on a rotating basis. Representative topics include the visual system, pain, the auditory system, higher functions of the nervous system. Seminar format with students reading and presenting papers from the current literature. PHYSIOLOGY

**230. Experimental Neurobiology.** (5) § SS. Prerequisite: Consent of instructor. Lecture and lab.

**Y-N Jan**

Laboratory course designed to acquaint students with electrophysiology and anatomical methods used in studying peripheral and central nervous systems. Techniques included are extra- and intracellular recordings, iontophoresis, dye injection, tracing of neuronal pathways. PHYSIOLOGY

**250. Research.** (1-8) § Su, F, W, Sp. Prerequisite: Consent of instructor. Laboratory.

**Staff**

PHYSIOLOGY

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

**Staff**

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

## Nursing

**103. Introduction to Nursing.** (7) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 15 hours.

**C. West**

Introduction to nursing and nursing process: fundamental nursing, terminology, facts, trends, and their application in nursing practice. PHYSIOL NURS

**104. Nursing of Adults.** (9) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 21 hours.

**C. West**

Application of the nursing process to the physiological, psychological, and sociological aspects of regulating response mechanisms to stress. PHYSIOL NURS

**105. Maternal-Child Nursing.** (9) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 21 hours.

**M. Savedra**

Application of principles and theories to nursing care given during the life processes of reproduction, nurturance and development, and alterations due to stressors during pregnancy and child development from birth to adolescence. FAM HLTH

**106. Psychiatric Ment Hlth Nursing.** (9) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 21 hours.

**J. Lipson**

Principles and dynamics of personality and family development. Application of the nursing process with clients who have coping problems resulting from stressors in selected developmental or situational crises. MENT HLTH COM ADM

**122. Physiol Processes—The Life Span** (3-5) § F. Lecture 3-5 hours.

**M. Muwaswes**

Examines content in regulation, sensation, protection, and motion as they relate to adaptive mechanisms in man at the cellular level. PHYSIOL NURS

**124. Professional Nursing Practice.** (1) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 1 hour.

**B. Holaday**

Course provides an introduction to the basis for professional practice and problems related to role change and resocialization in academia. Emphasis will be on use of theoretical approaches as the basis for providing nursing care. MENT HLTH COM ADM

**127. Adaptation in Acute Illness.** (5) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Nursing 129 or concurrent enrollment. Lecture 2 hours. Lab 3 hours. Seminar 2 hours.

**C. West**

Course describes and explores concepts related to the nursing care of the acutely ill patient. Description of behaviors, measurements, and nursing actions appropriate to the concepts will be compared and contrasted across a variety of acute illnesses. PHYSIOL NURS

**128. Intro to Research & Theory.** (3) W. Lecture 2 hours. Seminar 1 hour.

**H. Wilson**

Introduces basic research concepts, language, process, logic, and methods for various types of research as well as the meaning and use of nursing theory. Engages students in skills of intellectual craftsmanship including effective reading, thinking, and writing to improve research consumership. MENT HLTH COM ADM

**129. Health Assessment.** (3) F. Lecture 2 hours. Lab 3 hours.

**L. Lommel**

Course presents a basis for health assessment of clients within an adaptation-developmental model of nursing. Emphasizes data collection through history, physical examination, clinical studies, and identification of stressors altering health status. Laboratory for integration of theory and skill mastery. FAM HLTH

**131. Psychosocial Adaptation.** (4) W. Lecture 2 hours. Lab 4 hours. Conference 2 hours.

**P. Underwood**

Course presents a knowledge base for understanding assessment of intervention with persons demonstrating psychosocial responses to actual or potential health problems. Interviewing and communication techniques are presented as an integral part of both assessment and intervention. MENT HLTH COM ADM

**132. Care of Aged & Chronically Ill.** (3) § W. Lecture 3 hours.

**G. Dowling**

Nurse's role in health promotion and meeting special needs of the elderly and chronically ill. Demographic issues, functional assessment, alternatives for providing long-term care, and case management in acute, long-term, and community care settings will be covered. FAM HLTH

**133. Family Health Care.** (3) W. Prerequisite: N129. Lecture 2 hours. Lab 1 hour. Conference 2 hours.

**J. Ventura**

Course deals with the healthy family as the primary unit of health care management. Nursing process applied to promoting family health is emphasized, utilizing the adaptational-developmental framework. Community involvement with a family is an integral part of the course. FAM HLTH

**135. Leadership in Nurs-Client Sys.** (3) § Sp. Lecture 2 hours. Seminar 1 hour.

**Staff**

Course provides opportunity to develop a professional nursing role in a health care system appropriate to the student's area of interest. Knowledge and skill basic to the professional nursing leadership role are the foci of the course. MENT HLTH COM ADM

**137. Community Health Nursing.** (8) Sp. Prerequisite: N124. Lecture 3 hours. Lab 15 hours.

**M. Duffy**

Application of nursing, family, and community health theory to community health settings, focusing on assessing, planning, implementing, and evaluating nursing care with families, groups, and the community. Health planning and public policy will be examined. MENT HLTH COM ADM

**181. Law & Nursing Practice.** (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) § F, W, 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.** (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.** (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.** (3-4) § F. Prerequisite: Doctoral standing. Lecture 3 hours.

**A. Meleis**

Examines philosophically and analytically the nature of theory and relationship between philosophy, theory, and science. Provides knowledge and experience in all stages of theory development, exploration and critique of epistemological and historical ideas in nursing; scholarly exchange toward independent discovery. MENT HLTH COM ADM

**202B. Prototype Theories in Nursing.** (3-4) § W. Lecture 3 hours.

**S. Laffrey**

Comparative study and critical analysis of major prototype theories from which conceptions of nursing are derived. Emphasis is placed on systems, symbolic interaction, developmental exchange, and adaptation level theories. MENT HLTH COM ADM

**202C. Theories & Conceptual Framework.** (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) § F. Prerequisite: Consent of instructor. Seminar 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.

**C. Gilliss**

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. Nsg Mgt of Adult Psych Cond.** (3) § W, Sp. Prerequisite: N227 and 219 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 Phen: Physio.** (3-5) § SS1, SS2, SU, F, W, Sp. Prerequisite: Doctoral standing. Lab 3-9 hours. Seminar 2 hours.

**Staff**

Advanced study of the theory and research in the care of patients with physiological disruption and/or illness. In-depth examination of patient problems, assessment and management in the student's selected specialty area. Seminar with clinical laboratory. PHYSIOL NURS

**208.01A. Concept Delineation in Physiological Nursing.** (3) § W. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.

**V. Carrieri-Kohlman**

Seminar describes and analyzes phenomena relevant to nursing from theoretical, clinical, and empirical perspectives. Related concepts of interest to nursing are selected from observations in clinical settings and delineated in relation to the selected phenomena. **PHYSIOL NURS**

**208.02A. Concept Delineation in Family Health Care Nursing.** (3) § W. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours. **Staff**

Seminar describes and analyzes phenomena relevant to nursing from theoretical, clinical, and empirical perspectives. Related concepts of interest to nursing are selected from observations in clinical settings and delineated in relation to the selected phenomena. **FAM HLTH**

**208.03A. Concept Delineation in Mental Health, Community, and Administrative Nursing.** (3) § W. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours. **Staff**

Seminar describes and analyzes phenomena relevant to nursing from theoretical, clinical, and empirical perspectives. Related concepts of interest to nursing are selected from observations in clinical settings and delineated in relation to the selected phenomena. **MENT HLTH COM ADM**

**208.01B. Concept Measurement in Physiological Nursing.** (3) § Sp. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours. **P. Larson, R. Sisson**

Seminar focuses on measurement of selected concepts and their clinical manifestations. Existing measures are examined from theoretical, clinical, and empirical perspectives when the need for new measures is identified. **PHYSIOL NURS**

**208.02B. Concept Measurement in Family Health Care Nursing.** (3) § Sp. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours. **Staff**

Seminar focuses on measurement of selected concepts and their clinical manifestations. Existing measures are examined from theoretical, clinical, and empirical perspectives when the need for new measures is identified. **FAM HLTH**

**208.03B. Concept Measurement in Mental Health, Community, and Administrative Nursing.** (3) § Sp. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours. **Staff**

Seminar focuses on measurement of selected concepts and their clinical manifestations. Existing measures are examined from theoretical, clinical, and empirical perspectives when the need for new measures is identified. **MENT HLTH COM ADM**

**209. Social Support: Theory, Res & Meth.** (2-4) § W, Sp. Prerequisite: Doctoral standing. Seminar 2 hours. Independent study optional 3 or 6

hours for 3 or 4 units.

**J. Norbeck**  
Analysis of the literature relating social support to various health and adjustment outcomes with emphasis on conceptual and methodological issues. Students will develop a focused review of the social support literature relevant to their research and/or clinical interests. **MENT HLTH COM ADM**

**210. 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**

**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**

**211.02B. Maternal-Child Nursing Critique.** (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **M. Savedra**

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

**211.03B. Survey of Health Status Research.** (2-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Enrollment limited. Preference given to community health nursing specialist students. **S. Laffrey**

Students will critically examine research on health status at the individual, group and societal levels. Emphasis is on the concept of health status, measurement methods, and implications of research approaches and findings for nursing practice. **MENT HLTH COM ADM**

**211.04B. Death in Childhood Res Critique.** (3) § W. Prerequisite: Nursing 211A and consent of instructor. Seminar 3 hours. **I. Martinson**

Critique of studies related to the professional management of death, childhood development of the concept of death, children's response to death in the family, death anxiety in fatally ill children, and impact of death of a child on the family. **FAM HLTH**

**211.05B. Critique: Studies in Family Health.** (3) § W, Sp. Prerequisite: N211A or equivalent or consent of instructor. Seminar 3 hours. **C. Gilliss**

Course is a critique of research addressing the family and its relationship to the health and illness of family members. Research considered classic in the field will be reviewed, as will contemporary research. **FAM HLTH**

**211.06B. Neuroscience Research Critique.** (3) § Sp. Seminar 3 hours. **R. Sisson**

This course presents the scholarly process of critiquing research in neuroscience nursing. The foci are: evaluation of the research process, assimilation of the scientific basis for this specialty, and examination of implications of empirical findings for neuroscience nursing. **PHYSIOL NURS**

**211.07B. Crit of Onc Nursing Studies.** (3) § Sp. Prerequisite: Consent of instructor. Seminar 3 hours. **M. Dodd, P. Halliburton**

Presentation of 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) § Sp. Prerequisite: N211A. Seminar 3 hours. **V. Carrieri-Kohlman**

Course critiques research studies related to the nursing assessment, its plan, and therapy of acutely ill patients with multi-system failure. Students will learn to appreciate, evaluate, and integrate research findings into their clinical practice. **PHYSIOL NURS**

**211.10B. Critique: Studies in Child Health.** (3) § W, Sp. 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: Nursing 211A or consent of instructor. Lecture 2 hours. Lab 3 hours. **J. Norbeck**

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. **Linda 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) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **D. Affonso, M. Lynch**

Critique of studies reflects physiological or situational stressors in the high-risk perinatal and pediatric patient. Course will facilitate the appreciation, appraisal, and integration of research findings into clinical practice. **FAM HLTH**

**211.21B. Cardiopulmonary Res Critique.** (3) § W, Sp. Prerequisite: N211A or consent of instructor. Lecture 2 hours. Lab 3 hours. **K. Miller**

Critique of cardiopulmonary research with the intent to develop research consumerism, with emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. **PHYSIOL NURS**

**211.22B. Qlty Patient Care Res Eval.** (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **V. Carrieri-Kohlman**

Course critiques research studies in quality of patient care, emphasizing the utilization of a systematic critique process, methodologies employed in evaluation programs, and identification of major problems in patient care evaluation research. **PHYSIOL NURS**

**211.23B. International/Cross-Cultural Nursing Research.** (3) § W, Sp. 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) § Sp. Prerequisite: N211A. Seminar 3 hours.

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

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

**211.51C. Res Methodologies for Clinical Nursing Questions.** (3) § W. Prerequisite: N276 or consent of instructor. Lecture 2 hours. Lab 3 hours.

**N. Stotts**

Course applies research methodology to clinical nursing questions: formulation of clinical questions, experimental and quasi-experimental design, instrumentation, introduction to data analysis, including statistical methods and computer usage. 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.

**Staff**

Course will focus on selection and construction of

data-gathering tools in nursing research. Validity, reliability and utility are discussed. Computer coding and conducting a pilot study are included. PHYSIOL NURS & FAM HLTH

**212A. Evol of Psychoanalytic Theory.** (2) § F, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**P. Underwood**

This advanced seminar, open to graduate students, focuses on theory as an approach to understanding human behavior rather than as an approach to treatment. Emphasis is on evolution of theory and use of psychoanalytic concepts in nursing research. MENT HLTH COM ADM

**212B. Social Issues in Psych Nursing.** (2) § W, Sp. Prerequisite: M.S. students may take this course if they have completed N227A. 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

**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.

**D. Oda**

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.

**M. Duffy**

Exploration of analytic planning models applicable to community health services. Utilization of the community as a basis for planning and delivery of health care. Emphasis is on the role of the community nurse in health planning. MENT HLTH COM ADM

**216. Interventions-Nurs Work Stress.** (2) § F. Prerequisite: Graduate standing. Seminar 2 hours.

**A. Baldwin**

Course will help to enable students to evaluate the recent research and current models of nursing work stress. From this base, students will critically select

strategies for assisting and intervening in nursing stress situations. PHYSIOL NURS

**217. Psychosocial Care of Children.** (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**M. Tesler**

Course explores theory related to the psychosocial experiences of illness and hospitalization for the child and his family. Focus is directed to minimizing trauma and promoting growth. Concurrent practicum recommended. FAM HLTH

**218A. Phenomena Common to the Nursing Care of Ill or Injured.** (3-4) § F. Prerequisite: N276. Prior or concurrent enrollment in physiology or consent of instructor. Lecture 1 hour. Seminar 2 hours. Lab optional 3 hours for 4 units.

**N. Stotts**

Knowledge is organized around phenomena common to ill or injured individuals across the life span. Concepts such as stress, healing, clotting, infection, consciousness, pain and coping will be examined from a theoretical and clinical perspective. PHYSIOL NURS

**218.01B. Concepts in Cardiac Surgical Nsg.** (3) F, W. Prerequisite: Consent of instructor. Cardiac physiology and pathophysiology. Seminar 3 hours.

**P. Skov**

Course analyzes the needs of cardiovascular surgical patients. Physiologic and pathophysiologic mechanisms and surgical interventions are explored. Issues in clinical management are discussed from the theoretical perspective, and compared and contrasted with clinical practice. PHYSIOL NURS

**218.02B. Concepts in Neuroscience Nursing.** (3) § W. Prerequisite: N218A. Lecture 3 hours.

**R. Sisson**

Course explores phenomena which are commonly experienced by patients with a neurological diagnosis from a theoretical, scientific, and clinical practice perspective. Emphasis is on nursing interventions. PHYSIOL NURS

**218.04B. Concepts in Adult Medical Nursing.** (3) W. Prerequisite: N218A. Seminar 3 hours.

**Staff**

Course analyzes the needs of the medical patient. Physiologic and pathophysiologic mechanisms and appropriate treatments are explored. Issues in clinical management are discussed from the theoretical perspective, and compared and contrasted with clinical practice. PHYSIOL NURS

**218.05B. Concepts in Oncology Nursing.** (2) W. Prerequisite: N218A. Lab 2 hours, Seminar 1 hour.

**Staff**

Course analyzes the needs of the cancer patient. Physiologic and pathophysiologic mechanisms are explored from the theoretical perspective and compared and contrasted with clinical nursing practice. PHYSIOL NURS

**218.06B. Concepts in Critical Care Nursing.**

(3) W. Prerequisite: N218A. Seminar 3 hours.

**Staff**

Course analyzes the needs of the critically ill patient. Physiologic and pathophysiologic mechanisms and appropriate treatments are explored. Issues in clinical management are discussed from the theoretical perspective, and compared and contrasted with clinical practice. PHYSIOL NURS

**218.07B. Concepts in Trauma & Emergency Nursing.** (3) § W. Prerequisites: N218A and N231. Seminar 3 hours.

**S. Janson-Bjerklie, 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

**218C. Current Therapeutics.** (1-5) § F. Prerequisite: Physiology, N218A and 218B. Seminar 1-5 hours.

**N. Stotts, C. West**

Course investigates the theoretical basis of selected therapies commonly used with the ill or injured. Therapeutic aspects of interventions as well as side effects will be explored. Recent research will be used as the basis for discussion. PHYSIOL NURS

**218D. Illness or Injury Rehabilitation.** (2-3) § W. Prerequisite: Graduate standing. N218A. Seminar 2 hours. Lab optional 3 hours.

**C. West**

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: N231 and N275A-B. 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

**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. Course may be repeated for credit. Seminar 3

hours.

**H. Wilson**

This seminar guides doctoral students in the design and conduct of research in specialty areas in cross-cultural and international nursing and mental health and community nursing. MENT HLTH COM ADM

**220.02. Adv Sem in Nursing Research.** (3) § F, W, Sp. Prerequisite: Successful completion of the qualifying examination. Course may be repeated for credit. 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) § F, W, Sp. Prerequisite: Successful completion of the qualifying examination. Seminar 3 hours.

**V. Carrieri-Kohlman**

A seminar which guides students in the design and conduct of research in specialty areas in physiological nursing. PHYSIOL NURS

**221. 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.

**N. Lovejoy, I. Moore**

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 pathophysiological changes will be emphasized. PHYSIOL NURS

**222A. Principles of Nurse Midwifery.** (4) § F, W. Prerequisite: Enrollment in Nurse-Midwifery specialty. Lecture 3 hours. Lab 3 hours.

**M. Barger, D. Anderson**

Course critically analyzes scientific principles underlying selected obstetric and gynecologic diagnostic and therapeutic procedures in the management of health care of women throughout the childbearing cycle. FAM HLTH—UCSD

**222B. Nurse Midwifery Management.** (4) § W, Sp. Prerequisite: Enrollment in Nurse-Midwifery specialty. Lecture 4 hours.

**V. Lops, S. Weiner**

Course expands the theoretical knowledge base of the normal physiology of pregnancy. Emphasis is placed on the 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**

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 N 205 (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. Behavioral Issues in Fam Hlth.** (1) § Sp.

Prerequisite: Consent of instructor. Seminar 2 hours every other week.

**F. Dreier**

Seminar deals with advanced critical analysis and application of family, cultural, and behavioral theories leading to clinical intervention in family primary care. FAM HLTH

**226A. Chronic Illness & Nursing.** (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**J. Hallburg**

Course offers a study of problems related to long-term illness. Explores the interrelationship of various cultural, psychosocial, and pathophysiological factors involved in chronic illness. Field experience included. FAM HLTH

**226B. Chronic Illness & Nursing.** (3) § W. Prerequisite: N226A or consent of instructor. Lecture 2 hours. Lab 3 hours.

**J. Hallburg**

Course further explores the complexities involved in the illness careers of patients with chronic illness and their families, including the implications for nursing. Course analyzes the interrelationship of various cultural, psychosocial, and pathophysiological factors involved in long-term illness. Field experience included. FAM HLTH

**227A. Theories of Psych Conditions.** (2) § F, W, Sp. Lecture 2 hours.

**J. Lipson**

This lecture-seminar will emphasize the comparative study and analysis of selected psychological and sociological theories of major psychiatric conditions.

Both research findings and clinical data will be reviewed. MENT HLTH COM ADM

**227B. Theories of Psych Conditions.** (2) § F, W, Sp. Prerequisite: Consent of instructor or enrollment in the psychiatric/mental health specialty area. Lecture 2 hours.

**H. Wilson**

This lecture-seminar will emphasize the comparative study and analysis of selected biological theories of major psychiatric conditions. Both research findings and clinical data will be reviewed. 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

**230. 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

**231. Trauma and Emergency Pathophysiology.** (4) § Sp. Prerequisite: N275A-B (Physiological Basis of Nursing). Lecture 4 hours.

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

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

**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. Analysis of Visual Data.** (2) § F. Prerequisite: N211.52C (Visual Data: Study of Human Behavior). Lecture 2 hours.

**B. Highley**

Emphasis is placed on the content analysis of photographs used as data source in research. Criteria measures for analysis will be explicated through student's own data. FAM HLTH

**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, includ-

ing methods based on play, activity, and interview. MENT HLTH COM ADM

**235C. Child Mental Health Counseling III.** (2) § Sp. Prerequisites: N235A-B. Seminar 2 hours. **S. Weiss**

Course focuses on mental health counseling of children in situational crises. Particular emphasis is placed upon crises associated with loss, divorce, and physical illness. Termination of the counseling relationship is also addressed. MENT HLTH COM ADM

**236. Expectant Parent Group Education.** (2-3) § Sp. Prerequisite: Consent of instructor. Lab 3 hours. Seminar 2 hours.

**D. Affonso**

Theoretical sessions are related to methodology and techniques of conducting expectant parent education groups. Exploration of content relevant to concerns of expectant parents encompassing child-bearing and early child rearing experiences. Concurrent practicum recommended, but not required. FAM HLTH

**237. Health Assessment through Life.** (3-4) § Sp. Prerequisite: Department of Family Health Care Nursing students. Approval by F.O.R. Concurrent practicum required. Lecture 2-3 hours. Lab 3 hours. **D. Goldman**

Course presents theoretical principles of health assessment throughout the life cycle. Areas to be covered include methodologies of data gathering and data analysis essential to comprehensive health assessment of all groups. Laboratory experience provides application and integration of theory. FAM HLTH

**238A. Infant & Child Development.** (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours. **B. Holaday**

Course covers major theories and research findings dealing with the physical, intellectual, and emotional development of the child from birth through school age. FAM HLTH

**238B. Adolescent Development.** (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. **M. Savedra**

Course explores relevant theory, literature, and research findings dealing with normal development during the adolescent period. FAM HLTH

**239. Adult Development: Young and Middle Adulthood.** (3) § Sp. Prerequisite: Graduate standing, Child Development, and consent of instructor. Lab 3 hours. Seminar 2 hours.

**Staff**

This seminar, using an anthropological, sociological, and psychological perspective, will cover developmental theory and research from young adulthood through the middle adult years. Current issues in young and middle adulthood will be discussed with an emphasis on implications for health care. FAM HLTH

**240A. Family Primary Care I.** (5) § Sp. Prerequisite: Enrollment in Family Nurse Practitioner Program and N237. Lecture 5 hours.

**B. McLain, S. Carroll**

Theories, concepts and knowledge for comprehensive assessment and management of common health and illness conditions throughout the life cycle will be presented. Emphasis will be on primary care of the family unit. FAM HLTH

**240B. Family Primary Care II.** (4-5) § F. Prerequisite: N240A. Lecture 4-5 hours.

**S. Carroll**

Course presents theories, concepts, and knowledge for comprehensive assessment and management of selected episodic, stable chronic illness, and related health conditions throughout the life cycle. Emphasis will be on primary care of the family unit. FAM HLTH

**240C. Family Primary Care III.** (4-5) § W. Prerequisites: N240A-B. Lecture 4-5 hours.

**B. McLain**

Course presents theories, concepts, and knowledge for comprehensive assessment and management of special problems in family primary care. Emphasis will be on care of the family unit. FAM HLTH

**241A. Collaborative Role Development.** (1) § Sp. Prerequisite: Consent of instructor and concurrent enrollment in primary care clinical residency. Seminar 1 hour.

**B. McLain, E. Osborn**

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. Collaborative Role Development.** (1) § F. Prerequisite: Consent of instructor and concurrent enrollment in primary care clinical residency. Seminar 1 hour.

**B. McLain**

Seminar deals with critical analysis of issues and research related to collaboration in primary care. Emphasis is on interaction, role negotiation, power, and the client as a member of the team. FAM HLTH

**241C. Collaborative Role Development.** (1) § W. Prerequisite: Successful completion of N241.01A (Role Development in Primary Care) or N241A-B (Collaborative Role Development) and concurrent primary care clinical residency (N404.01, N405, or N406). Lecture 2 hours every other week.

**J. Saxe, S. Carroll**

Bi-weekly seminars deal with critical analyses of issues and research related to collaboration in primary care. Emphasis is on joint practice frameworks and practice management, marketing the nurse practitioner role, and legal/professional issues. MENT HLTH COM ADM

**241.01A. Role Development in Primary Care.** (1) § F. Prerequisite: Successful completion of concurrent primary care clinical residency (N404/405) or consent of the instructor. Lecture 2 hours every other week.

**J. Saxe**

Bi-weekly seminars offer the student clinical specialist/nurse practitioner the opportunity to discover strategies for promoting role development and role satisfaction via discussions of pertinent issues and research. Emphasis is on role adjustment, role stress, and scope of practice. MENT HLTH COM ADM

**241.01B. Professional Development in Primary Care.** (1) § Sp. Prerequisite: Successful completion of preceding N240.01A course work, concurrent primary care clinical residency (N404/405), or consent of the instructor. Lecture 2 hours every other week.

**J. Saxe**

Bi-weekly seminars offer the student nurse practitioner the opportunity to discover strategies for promoting professional practice. Emphasis is on standards, evaluation, and the evolution of the nurse practitioner's practice. MENT HLTH COM ADM

**242. Care of Acutely Ill Older Adults.** (3) § F. Prerequisite: N257. 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. Trends in Group Psychother Modalities.** (2) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours.

**B. Furuta**

Seminar is designed for graduate students of psychiatric nursing to examine and discuss theories and practice of various group modalities in current use. MENT HLTH COM ADM

**244A. Res Sem: Indiv, Fam, or Comm.** (2-4) § F. Prerequisite: Completion of first-year requirements for the Ph.D. program in nursing or consent of instructor. Lecture 2 hours, Independent study 0-6 hours.

**M. Duffy, C. Gilliss**

Nursing 244A-B-C prepares students for original research through consideration of content methods and issues in an area of specialization. Nursing 244A focuses on evaluation of a content area and generation of research questions within it. MENT HLTH COM ADM

**244B. Res Sem: Indiv, Fam, or Comm.** (2-4) § W. Prerequisite: N244A or consent of instructor. Lecture 2 hours, Independent study 0-6 hours.

**C. Gilliss, M. Duffy**

Nursing 244A-B-C 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

**244C. Res Sem: Indiv, Fam, or Comm.** (2-4) § Sp. Prerequisite: N244B or consent of instructor. Lecture 2 hours, Independent study 0-6 hours.

**C. Gilliss, M. Duffy**

Nursing 244C builds upon prior research content in the Ph.D. program to prepare students for original research through consideration of content, methods, and issues in the students' areas of interest. PHYSIOL NURS

**245. Pediatric Critical Care Assessment.** (2) § F. Prerequisite: Course given in conjunction with N 224 (Pediatric Clinical Therapeutics). Lecture 2 hours.

**M. Lynch**

Course focuses on the assessment of manifestations of pathophysiological phenomena in the pediatric critical care population. This assessment provides baseline data for management decisions and nursing care interventions. FAM HLTH

**246. Contemporary Parenting.** (3) § F, W, Sp. Prerequisite: Consent of instructor. Lab 3 hours. Seminar 2 hours.

**M. Tesler**

Course explores the evolving parent-child relationship. Focus is on adaptive tasks to manage environmental and interpersonal variables influencing the development of the parenting role. Nursing functions that support role acquisition and mastery are discussed. FAM HLTH

**247A. Pediatric Family Study.** (1) § W. 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.

**B. Durand, 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**

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

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

**Staff**

Individual study with emphasis on special problems in nursing. Students may select areas of study which are related to their 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) § S, 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 faculty research. This project may build toward the dissertation or contribute to methodological or substantive expertise. The quality of this project will be sufficient for presentation and/or publication. INTERDEPARTMENTAL

**250.02 Clinical Research Rotation.** (1-6) § S, 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 a faculty clinical research project. This project may build toward the dissertation or contribute to methodological or substantive expertise. The quality of this project will be sufficient for presentation and/or publication. INTERDEPARTMENTAL

**251. Advances in Vascular Nursing.** (3) § SS1, SS2, SU, F, W, Sp. Prerequisite: Consent of instructor. Learning modules 10 hours.

**P. Skov, C. Hubner**

Course examines the theoretical basis of prevention, intervention, adaptation, and rehabilitation in peripheral vascular insufficiency utilizing relevant research. Computer simulations facilitate synthesis and application of content. PHYSIOL NURS

**252. Int/Cross-Cultural Nsg Issues.** (3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.

**A. Meleis**

Seminar examining selected international nursing issues including primary care, nursing education and nursing service, women's roles, and patients' rights. MENT HLTH COM ADM

**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) § W.

Prerequisite: Consent of instructor. Lecture 2 hours.

**M. Lynch**

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 development alterations, and transitions for extra-uterine adaptation. Implications for nursing practice are explored. FAM HLTH

**255.01. Pediatric Health Assessment.** (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours.

**A. Alkon, D. Goldman**

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 and concurrent practicum required. FAM HLTH

**255.02. Child Health Maintenance.** (2-3) § F. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 0-3 hours.

**P. Jackson, S. Clark**

Course provides exploration of theories, concepts, and knowledge for comprehensive child health maintenance, encompassing prevention and promotion. Emphasis is on parents as participants in assessment, decision-making, and management of common health problems and normal developmental stresses in infancy and childhood. FAM HLTH

**255.03A. Common Pediatric Illness Management.** (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.

**P. Jackson**

Course presents theories, concepts, and knowledge for comprehensive assessment and management of common pediatric illnesses. Emphasizes the most common acute conditions managed by a PNP in collaboration with pediatrician. Integrates history taking, physical findings, diagnosis, and management. FAM HLTH

**255.03B. Common Pediatric Illness Management.** (4) § W. Prerequisite: Consent of instructor. Lecture 4 hours.

**A. Alkon-Leonard, S. Clark**

Course presents theories, research, and knowledge for comprehensive assessment and management of common acute and chronic pediatric illnesses. Emphasizes integration of content within clinical set-

tings and collaborating care between nurse, family, and physician. FAM HLTH

**256. Transitions & Health.** (3) § W, Sp. Lecture 3 hours. Course may be repeated for credit.

**A. Meleis**

Critical and analytical review of theories and research that links health of the individual and families to relocations and transitions. Focuses on responses and coping with situational, developmental, health-illness, and sociocultural transitions. Nursing therapeutic theories will also be explored. MENT HLTH COM ADM

**257. Biology of Aging.** (3) § W. Seminar 3 hours.

**M. Wallhagen**

Course focuses on the biology, pathophysiology, and current theories of human aging. Clinical application of theory for nursing practice is provided. PHYSIOL NURS

**258A. Family/Childbearing: Theory.** (3) § F. Lecture 2 hours. Lab 3 hours.

**J. DeJoseph**

Course critically analyzes psychosocial and physiological factors as they impact on the family during pregnancy and childbirth. Emphasis on evolving maternal/paternal roles and tasks related to pregnancy, body image, sexuality, childbirth and parenting. FAM HLTH

**258B. Family/Childbearing: Theory.** (3) § W. Lecture 2 hours. Lab 3 hours.

**D. Affonso**

Course critically analyzes psychosocial and physiological factors as they impact on the family during childbirth and early parenting. Emphasis is on transition to parenthood, parental and couple concerns, and issues in effecting change to provide optimal nursing care. FAM HLTH

**258C. Family & Childbearing.** (3) § Sp. Prerequisite: Nursing 258A. Seminar 3 hours.

**M. Gershwin**

This clinical seminar addresses the psychosocial and pathophysiologic issues of pregnancy, childbirth, parenting, and family/marital relationships during the childbearing period. Emphasis is on the role of midwife as facilitator of health adaptation. FAM HLTH

**259.01. Women's Reproductive Health.** (1-5) § F. Lecture 1-5 hours.

**L. Lommel, L. Sammons**

Course provides exploration of theories, concepts, and knowledge necessary to maintain and promote women's health. Emphasis is on application of current research: decision-making and management of pregnancy, the interconceptional period, and the climacteric, including collaboration with health team members. FAM HLTH

**259.02. Special Problems in Women's Health.** (1-4) § W. Prerequisite: Consent of instructor. Lecture 1-4 hours. Seminar optional 1 hour.

**W. Star, J. Neeson**

Emphasis is on theory and management of 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. Women's Health: Advanced Seminar.** (2) § Sp. Prerequisite: Consent of instructor. Seminar 2 hours.

**W. Star**

Course is an in-depth exploration of theoretical and management aspects of selected complications in obstetrics and gynecology 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

**261. Mental Health Nursing and the Law.** (2) § W, Sp. Prerequisite: Enrollment in M.S. program in Psychiatric Nursing or consent of instructor. Lecture 2 hours.

**G. Gresham**

Course reviews history and development of mental health legislation and decisional law in the U.S. and California. Explores current mental health laws as they relate to and influence the practice of psychiatric nursing in the public and private sectors. MENT HLTH COM ADM

**262A. Women's Health Roles/Issues I.** (1) § F, W. Prerequisite: Enrollment in Women's Health Nurse Practitioner Program or consent of instructor. Seminar 2 hours (every other week).

**J. DeJoseph**

Seminar focuses on critical analysis of issues influencing role transition, role enactment, scope and control of practice, and professional growth of the women's health care provider. FAM HLTH

**262B. Women's Health Roles/Issues II.** (1) § W, Sp. Prerequisite: N262A. Seminar 1 hour.

**L. Sammons, J. DeJoseph, J. Flanagan**

Seminar focuses on critical analysis of issues influencing restraints and enhancements of contemporary practice for women's health care providers. Impact of current legal, legislative, technological, and health care delivery trends are examined. FAM HLTH

**263B. Restorative Care: Geron/LTC.** (3) § Sp. Prerequisite: N263A. Consent of instructor. Lecture 2 hours. Seminar 1 hour.

**Staff**

Examines restorative nursing care, including supporting principles, concepts, and theories. Explores prescribed nursing care, outcomes, and evaluations for various institutional and community settings. Emphasis is on goal achievement and independence of each individual. Concurrent practicum is required. PHYSIOL NURS

**264A. Model Specification.** (2-3) § F. Prerequisite: Enrollment in Doctoral program and graduate level statistics course. Lab 0-3 hours. Seminar 2 hours.

**Staff**

Course reviews and analyzes the theoretic and mathematical bases of specifying and testing causal/predictive models in nursing. Analysis of the model includes assessment of mathematic and causal model assumptions and remedial steps to correct for distributional and/or specification violations. FAM HLTH

**264B. Model Testing and Respecification.** (3) § W. Prerequisite: N264A. Seminar 3 hours.

**Staff**

Advanced methods in exploratory analysis of data sets and respecification of models in nursing. Students test their own model using their own or a faculty-provided data base. Course emphasis is on using quantitative analysis for theory building. FAM HLTH

**265. Management of Clinical Occupational Health Problems.** (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Seminar 2 hours.

**J. Cone**

Course explores clinical management of occupational medical problems. Case-oriented discussion of problems in occupational health, using medical, nursing, industrial hygiene, and epidemiological principles. Emphasis is on clinical diagnostic strategies and epidemiologic methods used in evaluation of occupational health problems. MENT HLTH COM ADM

**266. Applied Pathophysiology of AIDS.** (3) § W, Sp. Prerequisite: Undergraduate biology or consent of instructor. Lecture 1 hour. Seminar 2 hours.

**N. Lovejoy, T. Moran, G. Gee**

Course describes theories of the natural history of AIDS and AIDS-related diseases. Symptomatology, diagnostic tools, treatment, 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.** (2) § F, W. Prerequisite: Graduate standing. Lecture 2 hours.

**A. Davis**

Exploration of selected ethical theories and 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.** (4) § SS2. Prerequisite: Consent of instructor. Lecture 6 hours.

**D. DeAmicis**

Course introduces assessment techniques for determining health status of adults. Focuses upon collection and interpretation of clinical data derived from the history and physical examination. Emphasizes identification of actual and potential stressors as well as adequate responses. MENT HLTH COM ADM

**271A. Clinical Management in Adult Primary Care.** (1-4) § F. Prerequisite: N270 or consent of instructor. Lecture 1-4 hours.

**T. Mendelson**

Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of the nursing process into clinical decision-making. MENT HLTH COM ADM

**271B. Clinical Management in Adult Primary Care.** (1-4) § W. Prerequisite: Consent of instructor. Lecture 1-4 hours.

**E. Hughes**

Introduces primary health care concepts essential to management of common physical illness in adults.

Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of the nursing process into clinical decision-making. MENT HLTH COM ADM

**271C. Clinical Management in Adult Primary Care.** (2-4) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Independent projects optional for 3-4 units.

**T. Mendelson**

Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of nursing process into clinical decision-making. MENT HLTH COM ADM

**272. Chronic Illness: Child & Family.** (3) § Sp. Prerequisite: N238A, Anthropology 235, Psychology 205, or consent of instructor. Lecture 3 hours.

**B. Holaday**

Course offers study of chronic illness in childhood and its effects upon the individual and his/her family. The presentation of content is based upon developmental and interactional models. Clinical content considers systematic assessment and intervention. FAM HLTH

**273A. Current Concepts in Occupational Health.** (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour.

**J. Lipscomb**

Course analyzes structure and organization of the occupational health system, regulatory control mechanisms for worker protection, and labor's role in health and safety. Major issues and trends in occupational health are explored. MENT HLTH COM ADM

**273B. Current Concepts in Occupational Health Nursing.** (2) § W, Sp. Prerequisites: Consent of instructor and concurrent enrollment in OHN practicum (2). Lecture 2 hours.

**B. Burgence**

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.** (4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 3 hours.

**D. DeAmicis**

Course introduces principles of industrial hygiene and safety for identification of chemical, biologic, physical, ergonomic, and safety hazards of work. Student will identify environmental monitoring methods, select health surveillance and safety measures, and discuss methods to control exposures and injuries. MENT HLTH COM ADM

**275A. Physiological Basis for Nursing.** (1-3) § F. Lecture 1-3 hours.

**M. Engler, 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, 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

**275.01. Pediatric Physiology Seminar.** (1) § F. Seminar 1 hour.

**M. Lynch**

Course studies organ system functions as modified by developmental needs and system immaturity. Application to pediatric critical care nursing assessment and intervention is provided. Course content is the pediatric adaptation of the content presented in N275A. FAM HLTH

**275.02. Pediatric Physiology Seminar.** (1) § W. Prerequisite: N275.01. Seminar 1 hour.

**M. Lynch**

Course is a study of cardiovascular, pulmonary, renal, and gastrointestinal system function as modified by developmental needs and system immaturity. Adaptation of system function as presented in N275B will be made to the pediatric critical care population. 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. Critical Care Pathophysiology.** (4) § Sp. Lecture 4 hours.

**R. Sisson**

Course offers study of the multi-system effects of frequently occurring pathologic states in the critically ill. Emphasis is on major mechanisms and consequences of the disorders which provide the basis for nursing assessment. PHYSIOL NURS

**278. Nursing Science History & Philos.** (4) § F. Prerequisite: Doctoral-level standing or consent of instructor. Lecture 2 hours. Seminar 2 hours.

**S. Gortner**



Course is an analysis of history and philosophy of nursing science in the United States and abroad, addressing origins of scientific questions and activity, contemporary philosophic viewpoints, and debates currently ongoing regarding design, conduct, and outcomes of nursing research. FAM HLTH

**279A. Family Nursing Theory.** (3) § F. Lecture 2 hours. Seminar 2 hours every other week.

**S. Rankin**

Course provides an introduction to family theories about systems, development, and stress. Lectures identify relation of stressors with family health or illness and examine ways to apply family theories to nursing practice. Seminars focus on interviewing techniques to assess family health. FAM HLTH

**279B. Family Nursing Interventions.** (3) § W. Prerequisite: N279A (Family Nursing Theory). Lecture 3 hours.

**C. Gilliss**

Course integrates family theoretical and therapeutic concepts. The focus is on nursing assessment and intervention strategies for identified family problems. The primary framework will utilize a systems model. FAM HLTH

**279C. Cultural Issues in Family Health.** (2) § W. Prerequisite: Concurrent enrollment in N 279B and consent of instructor. Lecture 1 hour. Seminar 1 hour.

**F. Dreier**

Course involves analysis of family, cultural, and behavioral theories and issues leading to clinical intervention in family primary care. FAM HLTH

**279D. Family Self Care.** (2-3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours (optional).

**B. McLain**

Course examines self care activities of families and their members from a primary care perspective. Emphasis includes reviewing current theories, research, and practices related to family self care in health and illness. FAM HLTH

**280. Intl Primary Health Care.** (2) § W. Seminar 2 hours.

**J. Lipson**

Seminar is a discussion of assigned readings on the political economy and practical implementation of community-oriented primary health care programs in the international realm, including discussion of the nurse's role in such programs. MENT HLTH COM ADM

**281A. Res Sem: Hlth & Its Correlates.** (2) § W. Prerequisite: Enrollment in Ph.D. program in nursing or consent of instructor. Seminar 2 hours.

**S. Weiss**

Course critically examines nursing research involving personal and environmental factors as they influence health and illness. MENT HLTH COM ADM

**281B. Res. Sem: Hlth & Its Correlates.** (4) § Sp. Prerequisite: N281A and enrollment in Ph.D. program in Nursing, or consent of instructor. Lab 3 hours. Seminar 3 hours.

**M. Dodd**

Course critically examines faculty research investigating nursing science from the perspective of person, environment, and health. PHYSIOL NURS

**282. Pregnancy & Early Motherhood.** (3-4) § W, Sp. Restriction: Proseminar for doctoral students. Lecture 2 hours. Field work 3-6 hours.

**Staff**

Course analyzes pregnancy and early motherhood including the relationship of physiological and developmental to psychological and social phenomena. Students will develop a model to explain a phenomenon occurring during pregnancy or early motherhood. 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. Women's Health Assessment.** (3) § Sp. Prerequisite: Consent of instructor. Restriction: Women's Health Nurse Practitioner students. Lecture 2 hours. Lab 3 hours.

**J. Neeson, L. Lommel**

Course presents theoretical principles of health assessment. Areas to be covered include methodologies of data gathering and data analysis essential to comprehensive health assessment of women. The laboratory experience provides application and integration of theory. FAM HLTH

**286A. Research in Stress & Coping.** (3-4) § F. Prerequisite: Consent of instructor or doctoral-level theory development. Lecture 3 hours. Contract for 1 unit for proposal development (optional).

**P. Benner**

Course critically analyzes the relationship of stress and coping to health and illness. Examines theoretical and empirical links between coping strategies and therapeutic interventions. Emphasis is on research programs. PHYSIOL NURS

**286.02B. Stress & Coping in Cancer.** (3-4) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Contract for 1 unit for research proposal (optional).

**P. Benner**

Course examines the current nursing, behavioral, medicine, and epidemiological research relating stress and coping to the etiology and course of cancer. Theoretical and empirical links between coping resources, strategies, and helping interventions are also included. PHYSIOL NURS

**287A. Organizational Theory & Research.** (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.

**M. Flood**

A critical review and analysis of major organizational theories and research. Emphasis is on open-system theories to examine characteristics of health service organization and the role of management. MENT HLTH COM ADM

**287B. Behavior in Organizations.** (3) § W. Prerequisite: N287A and consent of instructor. Lecture 3 hours.

**J. Ezrati**

Course examines the characteristics, causes, and consequences of behavior and experiences of individuals as they function in organizations. Emphasis is on personnel management and other managerial functions. MENT HLTH COM ADM

**287C. Processes in Administration.** (3) § Sp. Prerequisite: N287A and 287B or consent of instructor. Lecture 3 hours.

**S. Neidlinger**

Course provides a synthesis and application of management theories and administrative processes. Emphasis on leading, planning, organizing, controlling, decision making, managing change, and evaluating. MENT HLTH COM ADM

**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, N297 (Financial Management) or equivalent, and doctoral study or consent of instructors. Lecture 2 hours. Field work 3 hours.

**V. Cleland, S. Neidlinger**

Course is a critical analysis and synthesis of accounting and economic principles relating to the cost of nursing care. Cost methodology is used to determine cost of service, cost averages, marginal costs, cost-effectiveness, and cost-benefit. MENT HLTH COM ADM

**288C. Academic Administration Seminar.** (3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.

**Staff**

Seminar designed for doctoral students in nursing administration interested in the field of administration. Course analyzes and evaluates theories, models, principles, and practices relative to administrative roles in diverse academic settings. MENT HLTH COM ADM

**289. Labor Relations.** (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

**W. Neff**

Course critically analyzes organization and exchange theories relative to managing employer-employee relations in health care and educational settings. Emphasis is on labor movement, labor legislation and regulation, contract negotiations, and grievance procedures. MENT HLTH COM ADM

**290.01. Family Health Nursing Theory.** (3-4) § W. Prerequisite: Enrollment in doctoral program. Lab 0-3 hours. Seminar 3 hours.

**S. Rankin**

Comparative analysis of classical theories and methodologies for deriving a theory base for family health nursing. Emphasis is on interactional, role, structural-functional, and systems theories. FAM HLTH

**290.02. Family Health Theory.** (3-4) § Sp. Prerequisite: N290.01. Seminar 3 hours. Independent Study 0-3 hours.

**M. Savedra**

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

**291B. Pediatric Pathophysiology.** (3) § Sp. Lecture 3 hours.

**Staff**

A study of pathophysiological theories applying to pediatric nursing. The focus is on body system dysfunctions and the implications for nursing care. PHYSIOL NURS

**291.01 Pediatric Pathophysiology Seminar.** (2) § Sp. Prerequisite: Concurrent enrollment in N 291B. Seminar 2 hours.

**M. Lynch**

Seminar explores the pathophysiologic alterations in organ system function as influenced by developmental needs and system immaturity. Nursing course content presented in N 291B will be applied to the nursing of pediatric critical care population. FAM HLTH

**292A. Physiology of Pregnancy.** (2) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours.

**K. Lee, L. Ennis**

Course reviews and analyzes advanced physiology and pathophysiology of pregnancy and their impact

on the maternal-fetal unit as a basis for nursing practice and research. Emphasis is on reproductive and endocrine systems affecting adaptation and development during pregnancy. FAM HLTH

**292B. Physiology of Pregnancy.** (2) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **K. Lee, L. Ennis**

Course reviews and analyzes advanced physiology and pathophysiology of pregnancy as a basis for practice and research. Emphasis is on cardiovascular, hematologic, neuroendocrine, and renal systems affecting adaptation and development during pregnancy. FAM HLTH

**293. Nursing Serv & Educ Evaluation.** (3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.

**W. Holzemer**

Case studies are utilized to demonstrate program evaluation in nursing service and education. JCAH and NLN criteria are examined. Evaluation designs, instrumentation, data utilization, and political components of evaluation for policy decision making are critically analyzed. PHYSIOL NURS

**294. Computer Management & Clinical Data.** (3) § W. Prerequisite: Preference given to students in critical care specialty. Others admitted with consent of instructor. Lecture 2 hours. Lab 3 hours.

**K. Miller**

Course is an analysis of critical care patient data using the computer. Emphasis is on conceptualizing the set of data needed for decision making and using the computer to aid in clinical decision making. PHYSIOL NURS

**295. Quasi-Experimentation in Nsg Res.** (3) § F, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.

**R. Newcomer**

Seminar addresses validity issues of quasi-experimentation in nursing research. Designs examined in nursing literature include non-equivalent control group designs, interrupted time-series designs, passive observation, and randomized experiments. PHYSIOL NURS

**296. Teaching-Learning Processes.** (4) § SS1 or SS2, W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 2 hours.

**N. Okamoto**

Course analyzes principles, theories and research in the field of teaching with emphasis on teaching strategies and evaluation methods applicable to clinical and educational settings. A microteaching format is incorporated for application and evaluation of selected teaching interactions. PHYSIOL NURS

**297. Financial Management.** (3) § W, Sp. Lecture 2 hours. Lab 3 hours.

**V. Cleland**

Course offers introduction to financial accounting principles as they relate to financial management in

health care settings. Emphasis is on the manager's role and responsibilities in budgeting, monitoring, controlling, and in costing nursing care. Laboratory permits skill development. MENT HLTH COM NURS

**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.** (4-12) F, W, Sp. Prerequisite: Completion of Nursing 287A-B-C and 297, each with a grade of B or higher, and 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.

**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.

**404. Clinical Residency.** (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours.

**Staff**

Student has opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor. INTERDEPARTMENTAL

**404.01. Adult Primary Care Nursing-Clinical Preceptorship.** (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours.

**Staff**

Course provides an opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor. MENT HLTH COM ADM

**404.06A. Ped Clin Residency.** (5) F. Prerequisite: Consent of instructor. Lab 12 hours. Seminar 2 hours. Conference 1 hour.

**D. Goldman**

Course offers opportunity to apply and evaluate theories, concepts, and skills in the work setting under supervision of a preceptor. Focus is on development of the pediatric clinical specialist role in ambulatory child health care. FAM HLTH

**404.06B. Ped Clin Residency.** (5) W. Prerequisite: Consent of instructor. Lab 12 hours. Seminar 2 hours. Conference 1 hour.

**P. Jackson**

Course offers opportunity to apply and evaluate theories, concepts, and skills in the work setting under supervision of a preceptor. Focus is on development of the pediatric clinical specialist role in ambulatory child health care. FAM HLTH

**404.06C. Ped Clin Residency.** (6) Sp. Prerequisite: N404.06A-B. Lab 16 hours. Seminar 1 hour.

**P. Jackson**

Course offers opportunity to apply and evaluate theories, concepts, and skills in the work setting under supervision of a preceptor. Focus is on development of the pediatric clinical specialist role in ambulatory and chronic illness care. FAM HLTH

**405. Practicum in Mental Hlth & Com Nurs.** (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours.

**Staff**

Opportunity to apply theory in clinical practice to further develop skills and to extend clinical expertise in selected aspects of mental health and community nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills. MENT HLTH COM ADM

**405.01. Health Assessment of the Adult Clinical Practicum.** (3) SSII. Prerequisite: Must be taken concurrently with N270. Lab 4 hours. Clinical 5 hours/week.

**Staff**

Application of health assessment concepts and skills under supervision of clinical preceptors. Performance of systematic health assessment of adults leading to a growing ability to differentiate between normal and abnormal findings to identify stressors that arise from physical, social, and developmental services, and to formulate an initial problem list that reflects the above. FAM HLTH

**406. Practicum in Family Hlth Care Nurs.** (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours.

**Staff**

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: N242 (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: Nursing 411A. 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: Nursing 411A-B. Lecture 2 hours.

**R. Slaughter**

Course provides an introduction to administrative information systems and their impact upon patient care. Emphasis will be on data base management systems in a nursing administration environment. PHYSIOL NURS

**411D. Introduction to Computers.** (2) § F, W. Lecture 1 hour. Lab 3 hours.

**D. Chambers**

Course provides an introduction to microcomputers, focusing on word processing, DOS basics and hard disk management, hardware and software applications, and purchasing a system. PHYSIOL NURS

**411E. Data Management.** (2) § SS1, F, W, Sp. Prerequisite: None. Biostatistics 187 or 185A-B are recommended. Lecture 1 hour. Lab 3 hours.

**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

### 130. Human Nutrition. (2) W. Lecture 2 hours. Silverstein

An introduction to the basic principles of human nutrition. Subject material is related to the maintenance of normal nutrition throughout one's life span, and emphasis is on normal nutrition and its preventive role in maintaining general health, specifically oral health. DENT PUB HLTH

### 160. Nutrition for the Dental Hygienist. (2) F. Lecture 2 hours. Levine

Review of biochemical principles of nutrition related to development and maintenance of oral tissue, and the interrelationship of foodstuffs. Emphasis will be placed on practical application of nutritional assessment and counseling for dietary/behavioral change. DENT PUB HLTH

### 180. Nutrition Counseling for Preventive Dentistry. (1) Sp. Lecture 1 hour. Lab 1 hour. Prerequisite: Senior status in dental hygiene program, Nutrition 130B. Limited to ten students. Talbot

Supervised practicum in nutrition counseling with dental clinic patients. Students will apply techniques of diet analysis, preventive program planning, and patient counseling. DENT PUB HLTH

### 200. Maternal & Infant Nutrition. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2-4 hours. Y. Gutierrez

Application of current maternal nutrition research to train students in working with other health professionals to offer interdisciplinary maternal nutrition counseling in the prevention of low birth weight. Emphasis will be on cross-cultural factors in assessment and counseling. FAM HLTH

### 202. Family Nutrition Counseling. (3) § F, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Y. Gutierrez

Theory and practice in the interpretation of current concepts, principles, and research in nutrition for family counseling. Emphasis on cultural dietary patterns. FAM HLTH

### 208. Childhood Nutrition. (2-3) § Sp. Lecture 2 hours, Module 1 hour. Y. Gutierrez

Course provides study of nutritional principles, concepts, and knowledge related to infants and children, both healthy and ill. Emphasis is on

growth processes, feeding practices, disease-induced nutritional deficiencies, common problems, and intervention approaches. Cross-cultural aspects included. FAM HLTH

## Obstetrics, Gynecology and Reproductive Sciences

### 110. Ob/Gyn Core Clerkship. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. Jaffe and Staff

Basic principles and fundamental techniques in obstetrics and gynecology, including the psychiatric aspects of obstetrics and gynecology, are discussed in a series of seminars, case discussions, and teaching clinics. Students gain practical experience in clinics, wards, delivery room, and operating room under direct supervision. OB GYN R S

### 140.02. Advanced Clinical Clerkships. (1.5 per week) Su, F, W, Sp. Prerequisite: Satisfactory completion of Obstetrics and Gynecology 110, Pediatrics Core Clerkship and 110, and either Medicine 110 or Surgery 110 Core Clerkships. Braga,

Advanced clinical clerkship, obstetrics and/or gynecology at other accredited hospital, as individually arranged, and approved by department OB GYN R S

### 140.05. Advanced Ob/Gyn Clerkship-VMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Satisfactory completion of Obstetrics and Gynecology 110, Pediatrics 110, and Medicine 110 or Surgery 110. Open only to 4th year medical students of schools in U.S.A. and Canada. Reyes, Cooke, Sueldo

Practical clinical training in obstetrics and gynecology at Valley Medical Center of Fresno. Time is divided between labor and delivery experience, gynecology ward, and obstetrics and gynecology outpatient clinic. Students will have the opportunity to see normal, high risk, and adolescent pregnancies. OB GYN R S

### 140.06. Advanced Ob/Gyn Clerkship-SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110, Pediatrics 110, and either Medicine 110 or Surgery 110, or consent of instructor. R. Sweet and Staff

The clerk will function as an acting intern on the gynecology inpatient service. Some gynecologic outpatient [and emergency room] experience will be possible as well as inpatient and surgical gynecology. OB GYN R S

### 140.07. Advanced Gyn Clerkship-UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110, Pediatrics 110 and Medicine 110 or Surgery 110, or consent of instructor. Braga, R. Glass

The clerk functions in the role of an acting resident on the gynecology service. Responsibilities are primarily on the inpatient service and will include both surgical and nonsurgical aspects of gynecologic oncology, endocrinology, infertility, and general gynecology. OB GYN R S

### 140.08. Ob/Gyn Preceptorship. (1.5 per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110 and consent of instructor and chairperson of the department. Staff

Clinical experience in a subspecialty area or general obstetrics and gynecology under the direction of a member of the faculty. OB GYN R S

### 150.01. Research in Ob/Gyn & Repro Sci. (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department. Staff

A nonclinical research project under the direction of a member of the faculty. OB GYN R S

### 160.01. First- and Second-Year Ob/Gyn Preceptorship. (1) Su, F, W, Sp. Field work 3 hours. Brown

An opportunity for first- and second-year students to spend time in clinical faculty offices and be exposed to the field of general Ob/Gyn. OB GYN R S

### 170.01. Sociocultural Aspects of Nutr. (1) Sp. Seminar 1 hour. Abrams

A survey of the social, cultural and psychological factors that determine food behavior in the individual. Lectures, discussion and readings will identify barriers to healthy food patterns. Brief written assignments and class discussions will develop practical approaches to the provision of nutritional care. OB GYN R S

### 198. Supervised Study. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor. Staff

Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. OB GYN R S

### 199. Laboratory Project. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor. Staff

A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. OB GYN R S

### 222. Reproductive Endocrinology Sem. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Kuhn

Seminar presentations in areas of current interest in reproductive endocrinology by guest speakers and members of the Reproductive Endocrinology Center. Students will be required to submit a term paper. Course may be repeated for credit. OB GYN R S

### 230. Biology of Reproduction. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Siiteri

Topics include hormonal regulation of development, growth, and function of reproductive tract organs with special emphasis on the ovaries and uterus. OB GYN R S

### 231. Hormone Receptor Binding. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. J. Roberts

An in-depth assessment of the characterization of hormone receptor interactions by ligand binding methods. Lectures, assigned readings, and problems will focus on theoretical and practical aspects of techniques and data analysis. OB GYN R S

### 400. Staff Conferences. (1) § Su, F, W, Sp. Prerequisite: Practicing physicians only. Jaffe and Staff

Conferences comprised of formal discussions by staff, faculty, and visiting lecturers. OB GYN R S

### 401. Surgical Pathology Seminar. (1) § Su, F, W, Sp. E. Hill, Braga, H. Jones

Seminar includes the presentation of pathologic material from the obstetric and gynecologic services with formal instruction and discussions. OB GYN R S

### 402. Residents Core Lecture Series. (1) § Su, F, W, Sp. Kitzmiller

Seminars include presentations of special topics, literature reviews, and discussions. Discussions of resident staff functions also are held. OB GYN R S

### 450. Clinical Obstetrics & Gynecology. (10) § Su, F, W, Sp. UC Laros, SFGH R. Sweet, C Webb

Residents are responsible for the care of patients in the hospital and outpatient clinic. Formal and individual instruction is conducted. OB GYN R S

## Ophthalmology

First-Year Coordinated Instruction-Medicine 131A-B-C. Lecture-demonstrations and section work devoted to the supervised examination of patients. Core Clerkship-Surgery 110 and 111 include lectures and clinical experience in the diagnosis and care of eye diseases.

### 140.01A. Advanced Ophthalmology Clkshp-UC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110 or consent of instructor. Drake

Students will serve as subinterns on the ophthalmology wards. They will work up and present patients, and attend surgery and postoperative clinics. This is an intensive clerkship where students will be on twenty-four hour call the entire time. OPHTHALMOL

**140.01B. Advanced Ophthalmology**

**Cikshp-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. Comprehensive Clerkship in****Ophthalmology-SFGH.** (1.5 per week) Su. Prerequisite: Medicine 110 or consent of instructor.

One student per block.

**Seiff**

Students serve as subinterns on the Ophthalmology Service. They work up and present cases in the outpatient clinic and on the wards; and have the opportunity to participate in the operating room. On-call and weekend responsibilities should be expected. 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.

**Goodner**

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

**140.05. Adv Ophthalmology Clerkship-VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

**Whitten**

Under close supervision, students are involved in the clinical observation of patients in the Eye Clinic, on the wards and in surgery, and participate in departmental conferences. Main objective of the course is to enable students to perform a complete eye examination. OPTHALMOL

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

**Stanley**

Clinical observation of patients in clinics, wards and surgery. 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, RDMC T. Moore**

Residents or fellows, under supervision, are responsible for patient care, including diagnostic studies and treatment of medical eye care, diagnosis, surgery, and follow-up treatment of surgical eye cases.

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

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.

**P. Murray**

An in-depth study of the microbiology and immunology of periodontal diseases and dental caries. The formation and pathogenic potential of dental plaques are discussed. STOMATOL

**108.03. Cariology & Preventive Dentistry** (3) W. Prerequisite: Oral Biology 108.01 & 108.02. Lecture 2 hours, seminar 1 hour.

**Newbrun**

Principles in the prevention and treatment of caries. Topics covered include composition and function of dentifrices, dietary factors in the pathogenesis of caries, the role of fluorides in caries prevention, and overall treatment planning for high caries risk patients. STOMATOL

**111. First Year Special Study.** (2) F. Prerequisite: Passing placement examination and consent of instructor. Lecture 2 hours.

**Newbrun, Beirne, Bhatnagar**

Discussion of biological problems of interest in dentistry including saliva, mineral metabolism, hydroxylapatite crystal structure, connective tissue, bacterial cell walls, oral bacterial metabolism, and blood coagulation. STOMATOL

**116. Intro to Oral Biology.** (2) F. Lecture 1 hour, lab 2 hours.**Christie**

Introduction to oral biology correlating morphology, chemistry, function of dental and parodontal tissues. Topics include enamel, dentin, cementum, pulp, dental caries, tooth eruption, periodontium, oral mucous membranes. STOMATOL

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

**Staff**

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

**208A-B-C. Oral Immunology and Immunopathology.** (2-2-2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**Armitage, P. Murray, Greenspan**

Lectures and seminars on immunological mechanisms and their contribution to oral diseases. Topics covered include the immunology of periodontal disease, oral microbial diseases, oral autoimmune disease, and discussions of the interface of immunopathology and inflammation. STOMATOL

**209. Connective Tissue Seminar.** (2) § Sp. Seminar 2 hours.

**Bhatnagar**

A course in connective tissue biology, concerned mainly with the development, differentiation, and pathology of connective tissues, including topics such as regulatory controls of connective tissue macromolecules, fibrosis, wound healing, inflammation, tissue destruction, and selected genetic disorders. STOMATOL

**210. Topics in Virology.** (1) § Sp. Prerequisite: General knowledge of microbiology, immunology, molecular biology, or consent of instructor. Seminar 1 hour.

**Pereira**

Small group tutorial in which special topics in virology and correlated reading will be selected for discussion by students and staff members. STOMATOL

**215. Laboratory Rotation.** (4) § F, W, Sp. Prerequisite: Consent of instructor. Lab 12 hours.

**Staff**

A laboratory rotation course to familiarize first-year graduate students with various approaches to research in Oral Biology. STOMATOL

**220. Current Topics.** (1.5) § F, W, Sp. Seminar 1.5 hours

**Staff**

A seminar series covering current advances in research in oral biology in a systematic manner. Cur-

rent literature will be critically reviewed by students under faculty supervision, or by faculty or guest lecturers. STOMATOL

**221. Extracellular Matrices.** (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.

**Fisher, Damsky, Kramer**

Assembly and composition of extracellular matrices, including interactions that occur between cells and matrices. Emphasis on the role of various extracellular matrices during development, function of cell-matrix interactions in the adult, and the perturbation of these relationships that accompanies various disease processes. STOMATOL

**222. Mineralization.** (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Oral Biology 221. Consent of graduate advisor and instructor. Seminar 2 hours.

**Damsky**

Recent information on cell biology and physiology of mineralized tissues, and cell biology and development of cell types that produce the extracellular matrices that are subsequently mineralized. Emphasis on process of mineralization and the hormone regulation of mineral deposition and mobilization. STOMATOL

**223. Saliva and Salivary Glands.** (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.

**Newbrun**

This course will present recent information on the composition, regulation and function of the secretions from the major and minor salivary glands. Special consideration will be given to salivary gland dysfunction and its consequences. STOMATOL

**224. Host Response.** (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.

**Daniels, Khoury, Pappo**

Components of the immune system, survey of the various immunologic mechanisms in host responses, and current working concepts of the immune system. Overview of consequences that failure, exaggeration, or inability to distinguish self from non-self, may have for the host. STOMATOL

**225. Oral Microbiology I.** (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.

**Felton, Newbrun, and Staff**

Current information on pathogenic mechanisms involved in oral diseases, with emphasis on the structure metabolism, genetics and ecological relationships of oral microorganisms. STOMATOL

**226. Oral Microbiology II.** (2) § F or W or Sp. Offered in alternate years: inquire in Oral Biology office for next offering. Prerequisite: Oral Biology 225. Consent of graduate advisor and instructor. Seminar 2 hours.

**Felton, Newbrun**

Continuation of Oral Microbiology studies begun in Oral Biology 225. STOMATOL

**250. Research.** (1-8) § F, W, Sp.

**Staff**

STOMATOLOGY

**270. Journal Club.**(1) § F, W, Sp.

**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.

**Rosenquist, Danford, Migliorati**

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

**Rosenquist, Danford, Migliorati**

Recognition and resolution of dental clinical problems. Emphasis is on management of the patient in pain during clinic hours and on-call after hours. Students will examine oral and para-oral structures; review case histories for clinical implications for dental therapy; prescribe, make and interpret dental radiographs; treat or refer to appropriate sources. Senior students will take the place of teaching assistants for their junior partners. Seniors will present cases. STOMATOL

**169. Hygiene's Role in Recog of Dental Disease.** (0-1) Su, F, W, Sp. Prerequisite: Orad 129 or 159, senior dental hygiene status. Clinic 3 hours.

**Rosenquist, Angin, Danford**

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.

**Rosenquist, 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, 130A, 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.

**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.** (2) SS. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture and seminar.

**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 117A-B and Microbiology 126A-B. 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 Pain.** (1) W. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. 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 130A, 130B and 130C or consent of instructor. Lecture 1 hour.

**R. Smith, N. Gordon, Kaban,**

Procedural skills and academic knowledge the general dentist should be familiar with: includes pre-prosthetic 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.

**R. A. Smith**

Medical evaluation of dental patients and in-depth evaluation and treatment of patients with medical problems. Evaluation and treatment of cardiac arrest. Discussion of emergency drugs and development of an office emergency kit. Demonstrations of parenteral administration of drugs. ORAL & MAX SURG

**189.04. Adv Clin Oral Surgery & Implantology.** (0-16.5) Su, F, W, Sp. Prerequisite: Fourth-year standing and approval of department chairperson.

**R. Smith, Gordon**

Clerkships at UC, affiliated institutions, or other. Students participate in oral surgery care of ambulatory and hospitalized patients and attend seminars and lectures. ORAL & MAX SURG

**199. Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Approval of laboratory project by department chairperson.

**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.

**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**

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**

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 certain 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 one-half day.

**R. A. Smith**

Course is designed to teach the dental intern exodontia procedures under close supervision in the oral surgery clinic. The trainee takes responsibility for care of the oral surgery patient including preop-

erative 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.

**Olson, Silverman, Chinn**

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. STOMATOLOGY

**130. Clinical Oral Medicine.** (2) Su, SS3. Prerequisite: Oral Medicine 122; junior standing. Lecture 2 hours per 8 weeks.

**Silverman**

History taking, differential diagnosis, and therapeutics. Signs, symptoms, diagnosis, and treatment of oral mucosal diseases with emphasis on oncology. Management problems and solutions. STOMATOLOGY

**139. Clinical Oral Medicine.** (0-2) F, W, Sp. Prerequisite: Oral Medicine 120, 126, and 127. Lecture and clinic 2 hours.

**Chinn, Caswell and Staff**

Group rotation through two five-week sections: clinical diagnosis-patient presentation entailing history-taking, examination, diagnosis, treatment, and follow-up; and medicine-introduction to internal medicine and physical diagnosis. STOMATOLOGY

**180A-B-C. Clinical Oral Medicine Conference.** (1-1-1) F, W, Sp. Prerequisite: Fourth-year standing. Lecture 1.5 hours.

**S. 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. STOMATOLOGY

**189. Clinical Oral Medicine.** (1) Su, F, W, Sp. Prerequisite: Third- or fourth-year standing and consent of instructor. Clinic 3 hours.

**S. Silverman**

Participation in the Oral Medicine Clinic: apply knowledge of history-taking and differential diagnosis; utilize various diagnostic techniques such as biopsy, cytology, and certain clinical pathology laboratory tests; interpret results, prescribe treatment and follow-up; hospital rounds and weekly seminar. STOMATOLOGY

**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. STOMATOLOGY

**206. Oral Medicine Seminar.** (1-4) § F. Seminar 1-4 hours.

**Silverman**

A wide spectrum of selected topics related to oral biology is presented with emphasis on basic and applied research methodology, pertinence of problems, significance of findings, and critical evaluation of data. STOMATOLOGY

**489. Clinical Oral Medicine.** (1) § Su, F, W, Sp. Clinic 3 hours.

**S. Silverman**

Participation in the Oral Medicine Clinic applying knowledge of history-taking and differential diagnosis; utilizes various diagnostic techniques such as biopsy, cytology, and certain clinical pathology laboratory tests; interprets results, prescribes treatment, and follows up; hospital rounds; and weekly seminars. STOMATOLOGY

**Oral Pathology**

**127A-B. Introduction to Oral Pathology.** (0-5.5) F, W. Prerequisite: Oral Biology 126. Lecture 4.5 hours. Lab 3 hours.

**T.L. Green**

Course correlates clinical oral pathology with histologic changes. Emphasis is placed on the microscopic and laboratory interpretation of cellular, tissue, and chemical alterations. Laboratory sessions concentrate on clinical presentation of oral diseases. STOMATOLOGY

**181. Forensic Odontology.** (1) F, Sp. Lecture 1 hour.

**T. L. Green**

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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**Oral Radiology**

**111. Principles of Diagnostic Radiology.** (1) Sp. Lecture 1 hour.

**T.L. Green**

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. STOMATOLOGY

**121. Radiographic Interpretation.** (1) F. Lecture 1 hour.

**T.L. Green**

An introduction to the fundamentals of radiographic interpretation, some of the basic physics of X-ray generation, and radiation biology. STOMATOLOGY

**129. Basic Radiographic Techniques** (0-1) W, Sp. Lab 3 hours.

**Rosenquist, 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. STOMATOLOGY

**131. Radiographic Interpretation.** (1) Sp. Prerequisite: Oral Radiology 121. Lecture 1 hour.

**T.L. Green**

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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

## 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.** (0-4) Su, F, W, Sp. Prerequisite: Orthodontics 121 and 131.01-.02. Orthodontics 131.01 or 131.02 may be taken concurrently. Clinic 3 hours.

**R. Boyd, G. Young**

Evaluation and treatment of clinical orthodontic problems as experienced in general dental practice. Students will treat problems and refer others to specialists. GR DEVEL

**160. Orthodontic Concepts.** (1) Sp. Lecture 1 hour.

**R. Lee**

A discussion of recognition, etiology, and principles of orthodontics for the dental hygienist. GR DEVEL

**170A-B-D-E. Orthodontic Diagnosis.** (1-1-1-1) SS1, SS2, F, W. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.

**E. West**

Classification, etiology, and diagnosis of malocclusion. The various diagnostic modalities used in patient evaluation and treatment planning will be presented. GR DEVEL

**170.01A-B-C. Journal Club.** (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Seminar 1 hour.

**E. West**

A participation course in the review, analysis, and critical evaluation of the professional literature dealing with orthodontics and its related fields. GR DEVEL

**171. Orthodontics in Periodontic Prac.** (1) W. Prerequisite: Consent of instructor and enrollment

in a postdoctoral specialty program. Lecture 1 hour.

**E. West**

Course includes orthodontic principles and techniques that are applicable in a periodontic practice. GR DEVEL

**171.01D. Concepts of Occlusion.** (1) SS1. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.

**I. Nielsen**

Various concepts of occlusion and its biological determinants will be discussed as they affect functional problems of the temporomandibular joint. GR DEVEL

**171.02A-B-C. Practice Management.** (2-2-2) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontics or pediatric dentistry program or consent of instructor. Lecture 2 hours.

**R. Meyer**

A survey course intended to prepare the student to deal with the realities of managing an orthodontic practice. Thirty-six topics are explored and discussed by students and faculty. Several visitors representing different areas are invited to present guest seminars. GR DEVEL

**171.03. Functional Appliance Therapy.** (2) SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 2 hours.

**Scholz**

This course is designed to provide the skills necessary to select the appropriate functional appliance, design the appliance, instruct the laboratory in the making of the appliance, and manage the patient's treatment to a successful conclusion. GR DEVEL

**171.05A-B-C-D-E. Growth & Development.** (1-1-1-1-1) F, W, Sp, SS1, SS2. Lecture 1 hour.

**Isaacson, Nielsen**

Orthodontic applications and implications of basic craniofacial growth and development. GR DEVEL

**172A-B-C-D-E. Evaluation of Facial Form I.** (2-2-2-2-2) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 2 hours.

**Nielsen, Quinn**

Use of diagnostic radiography in the evaluation of dental and facial morphology is presented. Evaluation of morphological relationships, facial growth and development, skeletal maturation, the biological response to treatment modalities, and the complex interrelationship of these factors will be discussed. GR DEVEL

**172.01A-B-C. Research Design.** (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.

**Baumrind**

Principles of statistics and research design will be explored. Topics include statistical inference, hypothesis testing, analysis of variance, correlation, and multiple regression. The design of experimental and quasi-experimental research will be discussed and experience in computer software usage provided. GR DEVEL

**172.02. Independent Research.** (0-3) SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor.

**Litt, Baumrind**

Independent research experience. GR DEVEL

**172.03A-B-C. Evaluation of Facial Form II.** (2-2-2) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontics or pediatric dentistry program or consent of instructor. Lecture 2 hours.

**Nielsen**

Course teaches diagnosis, treatment planning, and treatment of all types of malocclusions on a systematic basis. The biologic basis for orthodontic treatment with respect to facial growth and development and the application of differential diagnosis is presented. GR DEVEL

**173A-B-C. Orthognathic Surgery Conference.** (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.

**E. West**

Postdoctoral students in orthodontics, prosthodontics, and oral and maxillofacial surgery will participate in evaluating and planning treatment for patients with facial and occlusal deformities requiring combined multidisciplinary therapy. Periodic review and presentation of previously treated patients will be included. GR DEVEL

**173.01A-B-C-D-E. Orthodontic Seminar.** (3-5,3-5,3-5,3-5,3-5) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry programs or consent of instructor. Seminar 3-5 hours

**E. West**

Evaluation and treatment planning of various types of malocclusion will be presented. The seminars will include discussions of various basic science, clinical science, and general biological principles, as they apply to the field of orthodontics. GR DEVEL

**173.02. Private Practice Seminar.** (0-3) F, W, Sp. Prerequisite: First-year postdoctoral Orthodontic program. Seminar 1 hour.

**Righellis**

This seminar is designed to integrate the second-year residents' postdoctoral orthodontic education with the private practice of orthodontics. GR DEVEL

**174. Biomechanics & Tooth Movement.** (2) W, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 2 hours.

**Yoshikawa**

Fundamental concepts of force systems will be presented. Included are equilibrium, force equivalency, and free-body analysis. Concepts will be related to orthodontic tooth movement, appliance design, and biological response to force application. GR DEVEL

**174.01. Periodontics & Orthodontics.** (1) Su. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1-2 hours.

**R. Boyd**

Current literature in periodontics and orthodontics is reviewed and discussed. Case presentations involving treatment between the two specialists are discussed and evaluated by students and faculty. Emphasis is placed on the advances in preventive procedures and their impact on orthodontic practice. GR DEVEL

**174.02. Orthodontic Techniques.** (1) SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.

**Nielsen**

A lecture and participation course designed to familiarize the postdoctoral student with orthodontic appliances, their fabrication, and adjustment. GR DEVEL

**175A-B-C. TMJ Pain & Dysfunction Seminar.** (0-3) F, W, Sp. Prerequisite: Resident standing in Orthodontics. Seminar 1 hour.

**McNeill, Nielsen**

This course will provide the resident with the basic cognitive skills for recognizing, diagnosing, and treating patients with TMJ pain, TMJ dysfunction, and craniofacial pain in a "team environment" (i.e., prosthodontist, orthodontist, oral surgeon, psychologist, neurologist, ENT, physical therapist, etc.). GR DEVEL

**176A-B-C. TMJ Pain & Dysfunction Clinic.** (0-3) F, W, Sp. Prerequisite: Resident standing in Orthodontics. Clinic 3 hours.

**West, Nielsen, McNeill**

This course will provide the resident with the basic clinical skills for recognizing, diagnosing, and treating patients with TMJ pain, TMJ dysfunction, and craniofacial pain in a "team environment" (i.e., prosthodontist, orthodontist, oral surgeon, psychologist, neurologist, ENT, physical therapist, etc.). GR DEVEL

**179.01A-B-C-D-E. Clinical Orthodontics I.** (0-7) SS1, SS2, F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontics or pediatric dentistry program or consent of instructor. Lab variable. Clinic 0-21 hours.

**Lee**

Diagnosis, treatment, and evaluation of clinical postdoctoral orthodontic problems as experienced in modern orthodontic practice. Students will treat

patients with a broad spectrum of orthodontic problems. Students will work with other specialists in the management of complex orthodontic problems. GR DEVEL

**179.03A-B-C-D-E. Clinical Orthodontics II.** (0-7) SS1, SS2, F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lab variable. Clinic 0-21 hours.

**Boyd**

Diagnosis, treatment, and evaluation of clinical postdoctoral orthodontic problems as experienced in modern orthodontic practice. Students will treat patients with a broad spectrum of orthodontic problems. Students will work with other specialists in the management of complex orthodontic problems. GR DEVEL

**179.05A-B-C-D-E. Ortho General Interaction.** (1-1-1-1-1) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Clinic 3 hours.

**R. Boyd**

Evaluation and treatment of clinical orthodontic problems, as experienced in general dental practice. Postdoctoral students will assist and supervise general dental students in the diagnosis, evaluation, and treatment of orthodontic problems. Emphasis is on the relationship between generalist and specialist. GR DEVEL

**181. Adv Orthodontics in Gen Practice.** (0-3) F, W, Sp. Prerequisite: Orthodontics 131B. Seminar 1 hour.

**R. Boyd and Staff**

Third- and fourth-year dental students will participate in weekly one-hour discussions of clinical aspects of orthodontic therapy using patient records as a basis of discussion. Students may elect to participate two hours per week in off-campus seminars. GR DEVEL

## Orthopaedic Surgery

### First-Year Coordinated Instruction—Medicine

131A-B-C. Lecture-demonstrations and section work devoted to the supervised examination of patients.

**Core Clerkship**—Surgery 110 and 111 include seven to eight orthopaedic lectures, case presentations, and outpatient clinic assignments. Students are given instruction in methods of examination of patients with musculoskeletal disorders, with emphasis on diagnosis and principles of treatment.

**140.01A-B-C-D. Clin Clkshp**—UC-SFGH-SFGH ER-VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. Must be a senior. **W. Murray, Day, Maurer**

Students, assigned to inpatient and outpatient services, receive instruction and experience in examination and treatment of patients. Assistance in surgery and in use of treatment modalities is required. Clinical demonstrations, seminars, and conferences form the basis for didactic instruction. ORTHO SURG

**140.02. Off-Campus Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111.

**W. Murray**

Orthopaedic surgery clinical clerkships are offered in off-campus hospitals approved by the chairperson of the department and the dean. ORTHO SURG

**140.03. Rehabilitation Medicine—S & VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Pediatrics 110.

**Carpendale**

Course will provide knowledge and skills in electrodiagnosis, neurologic rehabilitation, spinal cord injury, closed head trauma, the rheumatoid patient, orthopaedic rehabilitation, hazards of bed rest, and acute and chronic low back pain. ORTHO SURG

**150.01. Research in Orthopaedic Surgery.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111 and permission of instructor.

**Day**

Research project under direction of a member of the faculty. ORTHO SURG

**160.01. Fracture Conference.** (1) Su, F, W, Sp. Conference 1 hour.

**Skinner**

Fracture conference on patients admitted to the emergency room, with emphasis on X-ray findings and treatment modalities. ORTHO SURG

**401. Orthopaedic Pathology.** (1) F, W, Sp. Prerequisite: Third- and fourth-year residents.

**UC J. Johnston**

A lecture series covering tumors and infections of the musculoskeletal system, illustrated by microscopic slides and photographs of gross specimens. ORTHO SURG

**402. Musculoskeletal System Physiol.** (1) F, W, Sp.

**UC Day**

Seminars cover connective tissue metabolism; muscle, bone, and joint physiology; preoperative and postoperative management of patients; wound infections; microbiology; and surgical principles. ORTHO SURG

**403. Gross & Functional Anatomy.** (1) F, W, Sp.

**UC Day**

Course includes lectures by students and faculty on gross and functional anatomy, laboratory dissections of cadaver material, and demonstrations of surgical approaches. ORTHO SURG

**404. Orthopaedic Literature.** (1) F, W, Sp. Residents at C, RDMC, SFGH, SSF, UC and VA.

**UC Day**

Seminars are student presentations of selected orthopaedic surgery subjects featuring historical review complete with bibliography. They are moderated by an assigned faculty member. ORTHO SURG

**406. Orthopaedic Medical Staff Conf.** (1) Su, F, W, Sp.

**UC W. Murray**

Clinical instruction in the care and management of orthopaedic problems in rheumatoid arthritis and allied diseases. Cases are presented by residents to attending staff and rheumatology consultants. ORTHO SURG

**407. Orthopaedic Surgical Conference.** (1) Su, F, W, Sp.

**H Slabaugh**

Seminars include presentation of problem cases by residents for consideration of diagnosis, treatment, and discussion by the attending staff. ORTHO SURG

**408. Orthopaedic Surgical Conference.** (1) Su, F, W, Sp.

**SFGH L. Day**

Selected problems are illustrated by cases treated or under treatment. Cases are presented by the resident staff and discussed by members of the attending staff. ORTHO SURG

**409. Orthopaedic Surgical Conference.** (1) Su, F, W, Sp.

**SSF Ashley**

Conference with emphasis on children's problems in which residents make case presentations of inpatients for review and of new patients for consideration of diagnosis and therapeutic plan. ORTHO SURG

**411. Orthopaedic Surgical Conference.** (1) Su, F, W, Sp.

**VA Maurer**

Conference includes review of admissions and discharges of hospitalized patients by the attending and consulting staffs. Cases are presented by the residents. ORTHO SURG

**412. Orthopaedic Clinical Seminar.** (1) Su, F, W, Sp.

**CHMC Debenham, H Slabaugh, SM Jensen**

Seminars are held in rotation at each of these hospitals with residents from all three hospitals attending. They include literature review and demonstrations related to surgical approaches, anatomical dissections, diagnosis, and treatment. ORTHO SURG

**413. Orthopaedic Surgical Conference.** (1) Su, F, W, Sp.

**Staff**

Residents prepare and present case histories of inpatients and selected outpatients. Course includes

discussions on diagnostic procedures, indications for surgery, immediate postoperative follow-up, and problem cases (consultations). ORTHO SURG

**414. Hand Surgery Conference.** (1) Su, F, W, Sp.

**L. Gordon**

Conference includes presentation of case studies in hand surgery with central subject for each session. ORTHO SURG

**450. Clinical Adult Orthopaedics.** (1.5 per week) Su, F, W, Sp.

**RDMC Bloom, PMC McCarroll, KP J.**

**Johnston, MZ Glick, UC W. Murray**

Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations. ORTHO SURG

**451. Clinical Pediatric Orthopaedics.** (1.5 per week) Su, F, W, Sp.

**C L. Larsen, CHMC Debenham, SSF Ashley**

Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques and consultations. ORTHO SURG

**452. Traumatic & Adult Orthopaedics.** (1.5 per week) Su, F, W, Sp.

**SFGH L. Day, SM Jensen, VA Maurer, H Slabaugh**

Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations. ORTHO SURG

**453. Clinical Orthopaedics.** (1.5 per week) Su, F, W, Sp. Chief resident.

**UC W. Murray**

Under faculty supervision, the chief resident organizes care and referral of staff patients; supervises a weekly follow-up clinic; administers the teaching-bed fund; independently performs operative procedures in selected cases; advises interns, residents, and fourth-year medical students; participates in paramedical teaching. ORTHO SURG

**455. Clinical Sports Medicine.** (1) Su, F, W, Sp. **J. Glick and Staff**

Clinical instruction in the care and management of orthopaedic problems in athletic injuries. Course consists of clinical practice under supervision as well as didactic lectures every third week. ORTHO SURG

**490. Clinical Orthopaedics—SFGH.** (1.5 per week) Su, F, W, Sp.

**L. Day**

Residents-I rotate through orthopaedic wards and follow-up clinics. They are responsible for patient care under the direction of the attending staff, in-



cluding history-taking, physical examinations, X-ray conferences, and consultations. ORTHO SURG

## Otolaryngology

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

**Core Clerkship**—Surgery 110 and 111 include lectures and case demonstrations on the examination and diagnosis of otolaryngological diseases, particularly those related to trauma and infection. Instruction is given in the examination and diagnosis of ward and clinic patients with otolaryngological surgical diseases.

**140.01A. Adv Otolaryngology Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.

### Boles

A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

**140.01B. Adv Otolaryngology Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.

### Kaplan

A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

**140.01C. Adv Otolaryngology Clkshp**—SFGH. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.

### Wildes

A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

**140.01D. Adv Otolaryngology Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.

### R. Wong

A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

**140.01E. Adv Otolaryngology Clkshp**—NRMC. (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.

### 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. Otology and Neurotology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Third or fourth year (fourth preferred).

### Jackler, Schindler

A course in basic audiometric and vestibular testing; diagnosis and management of diseases of the ear and skull base; and experience with surgery for hearing restoration, treatment of vertigo, and for removal of ear and skull base neoplasms. OTOLARYN

**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.

### Sooy

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 arthropods that parasitize man. Parasite ecology and disease epidemiology, clinical and diagnostic aspects of parasite diseases and their treatment are considered in lecture and laboratory. Emphasis in the laboratory is on demonstration. EPID INTL HLTH

## Pathology

**101. General & Systemic Pathology.** (4) F. Prerequisite: Substantive courses in anatomy, biochemistry, physiology, histology, microbiology (or concurrent enrollment), concurrent enrollment in Medicine 132A. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours. Lab 2 hours.

### Bottles

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.

### Bottles

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.

### Bottles

Recent advances and clinical concepts of diseases as they affect the following organ systems are presented: reproductive systems, skeletal system, hematopoietic system, and lymph nodes. Emphasis will be on correlation of functional and morphologic characteristics of diseases of organ systems. PATHOLOGY

**126. General Pathology.** (5) § F. Prerequisite: Substantive courses in biochemistry, physiology, histology, microbiology (first quarter, concurrent) or an introduction to immunology. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours. Lab 6 hours.

### Stern

Mechanisms and language of disease are discussed, with emphasis on the dynamic nature of fundamental disease processes: cell injury, immunopathology, inflammation, responses to infectious agents, repair, regeneration, hemodynamic derangements, genetic disorders, disturbances of cell growth, and neoplasia. PATHOLOGY

**127. General Pathology.** (2) F. Prerequisite: Courses in biochemistry, physiology, histology, microbiology, and an introduction to immunology. Lecture 4 hours for five weeks.

**Stern**

Mechanisms 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, disturbances of cell growth, and neoplasia. PATHOLOGY

**135. General Pathology.** (3) F. Prerequisite: Substantive courses in biochemistry, physiology, histology, microbiology (first quarter, concurrent) or an introduction to immunology. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours.

**Stern**

This course is identical to the lecture portion of Pathology 126. PATHOLOGY

**135.01. General Pathology.** (3) F. Prerequisite: Enrolled in academic program in Physical Therapy and completion of prerequisite coursework in human physiology and microbiology. Open only to students enrolled in the curriculum or by consent of program director. Lecture 3 hours.

**Stern**

Mechanisms and language of diseases are discussed, with emphasis on the dynamic nature of fundamental disease processes such as cell injury, immunopathology, inflammation, response to infectious agents, repair and regeneration, hemodynamic arrangements, genetic disorders, disturbances of cell growth and neoplasia. PATHOLOGY

**150.01. Autopsy Dissection Principles.** (1.5 per week) Su, F, W, Sp. Prerequisite: Pathology 101. Consent of instructor. Enrollment limited.

**Warnock**

Performance of one to two autopsies. Emphasis will be on review of normal anatomy and histology and systematic observations and descriptions of pathologic material. Objective of the course is to provide a better understanding of clinical pathologic correlations. PATHOLOGY

**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

**150.03. Pathology Clerkship-SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Pathology 102 and consent of instructor.

**Bottles**

Students prepare surgical specimens, perform autopsies under supervision, and participate in teaching conferences. PATHOLOGY

**150.04. Pathology Clerkship-UC & VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. Consent of instructor.

**Ferrell, Montgomery**

Students work closely with the faculty and house staff in the performance of autopsies and in the diagnostic work-up of surgical specimens. They actively participate in departmental conferences and seminars. Opportunity provided for development of specific areas of investigation. PATHOLOGY

**150.05. Research.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department.

**Staff**

A research project under the direction of a member of the faculty. 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**

This course is designed to acquaint students with available techniques in autopsy dissection, surgical pathology, research, and tissue analysis, and their application in diagnosis and surgical care; review anatomy and histology; observe and describe pathological material; and pursue a research project. PATHOLOGY

**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

**180.01. General Pathology.** (3) F. Prerequisite: Anatomy 118. Lecture 3 hours.

**Stern**

This course is identical to the lecture portion of Pathology 126. Elective in the dental hygiene curriculum. PATHOLOGY

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

**Staff**

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

**199. Laboratory Project.** (1-5) § F, W, Sp. Prerequisite: Consent of instructor.

**Staff**

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

**209. Applied Pathology.** (3) § W. Prerequisite: Microbiology 126A-B and Pathology 126 or equivalents.

**J. Greenspan**

Weekly seminars are designed to provide students with an understanding of the basic principles of pathology. Emphasis is placed on research; students will critically review current literature in the field, under faculty supervision. PATHOLOGY

**215. Laboratory Rotation.** (3) § F, W, Sp. Prerequisite: Consent of instructor. Lab 9 hours.

**Parslow**

A laboratory rotation course, to familiarize students with various approaches to experimental pathology and research in the basic medical sciences, particularly in relationship to human disease processes. Intended primarily for new graduate students. PATHOLOGY

**225. Connective Tissue Research Sem.** (4) § F, W, Sp. Seminar 4 hours.

**R. Stern**

Students and faculty review literature and discuss current concepts and experiments in connective tissue research. Included are role of structural proteins, such as collagen and elastin in pathology, cell

matrix, interactions in developmental biology and morphogenesis. PATHOLOGY

**230. Experimental Pathology Seminar.** (2) § F, W, Sp. Prerequisite: Permission of the graduate advisor of the department. Lecture 1 hour. Seminar 1 hour.

**Parslow**

Presentation of current research by graduate students. Topics in pathology and disease mechanisms. Faculty from basic and clinical sciences will discuss current research in a disease process. Advanced reading in that disease will be assigned before class. There will be formulation of test-hypothesis and discussion of an experimental design lead by a student leader at each session. PATHOLOGY

**250. Research.** (1-8) § F, W, Sp.

**Staff**

PATHOLOGY

**297. Molecular Biology of Human Disease.** (3) § Sp. Prerequisite: Open to graduate students, housestaff, and SMSTP students. Lecture 1 hour, seminar 2 hours.

**McKerrow**

The course is designed to provide students with an up-to-date summary of our knowledge of atherosclerosis with particular emphasis on application of techniques of molecular and cell biology to understand both the pathogenesis and genetics of the disease. PATHOLOGY

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

**Staff**

For graduate students engaged in writing the thesis for the master's degree. PATHOLOGY

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

**Staff**

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

**301. Teaching Practicum.** (3) F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 2 hours.

**Bottles**

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.

**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.** (1) Su, F, W, Sp. Prerequisite: Third-year standing. Clinic 3 hours per week.

**Morris 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.** (2) Su, F, W, Sp. Prerequisite: Fourth-year standing and satisfactory completion of Restorative Dentistry 139. Clinic 6 hours per week.

**Morris, 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.

**Leggott and Staff**  
Course is offered to the incoming postdoctoral student as an introduction to the philosophies and techniques of rendering clinical treatment to patients in pediatric dentistry. **GR DEVEL**

**171A-B-C-D-E. Advanced Ped Dent Sem.** (5-5-5-5-5) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor. Seminar 5 hours.

**Leggott and Staff**  
Will discuss the state of the art of all aspects of contemporary pedodontic diagnosis and treatment. The instruction embraces not only a review of historical perspectives but also research and clinical essays in current diagnostic activities and treatment modalities. **GR DEVEL**

**172D-E. Pediatric Physical Diagnosis.** (1-1) SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 1 hour.

**Rothman**  
Course is designed to provide knowledge of clinical pediatrics. It will include didactic and clinical experiences in history-taking and physical diagnosis. **GR DEVEL**

**172.11A-B-C. Pediatric Medicine.** (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Seminar 1 hour.

### Rothman

Course will provide information on various topics of health care of children. Emphasis will be placed on the etiology, diagnostic procedures, prognosis, and management of common pediatric conditions. **GR DEVEL**

**173C. Clinical Uses of Fluorides.** (2) Sp. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 1 hour. Seminar 1 hour.

**Leggott**  
Course gives a comprehensive update on the clinical uses of fluoride in pediatric dentistry. It is a combined lecture and seminar course. A term paper on an assigned topic is also required. **GR DEVEL**

**173.11B-C. Dentistry for the Disabled.** (1-1) W, Sp. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor.

**Braham and Staff**  
Course provides knowledge of the congenital and acquired disabilities in children and adolescents. There is emphasis on the etiology, diagnosis, medical, and dental management, and prognosis of these conditions. **GR DEVEL**

**174A-B-C-D-E. Lit Survey in Ped Dent.** (1-1-1-1-1) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor.

**Barkin and Staff**  
Course reviews the latest issues of pediatric dentistry and related journals and critically evaluates the philosophies, clinical treatment, and applications to the practice of dentistry for the child patient. **GR DEVEL**

**176A-B-C-D-E. Practice Teaching.** (1.5-1.5-1.5-1.5-1.5) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Seminar 1 hour. Clinic 1.5 hours.

**Morris and Staff**  
Student teaches junior and senior dental students in the pediatric dentistry clinics. In addition, the student will teach selected topics in a seminar format. **GR DEVEL**

**177A-B-C-D-E. Hospital Dentistry.** (3-3-3-3-3) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Seminar 1 hour. Clinic 6 hours.

**Rothman and Staff**  
Course is specifically designed to provide the student with a working knowledge of dental rehabilitation procedures in a hospital operating room under general anesthesia and the associated hospital protocol. **GR DEVEL**

**177.11A-B-C-D-E. Conscious Sedation.** (1.5-1.5-1.5-1.5-1.5) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 1 hour. Clinic 1.5 hours.

### Rothman and Staff

A multiplicity of medications, routes of administration, and monitoring techniques will be employed under the direct supervision of a faculty person. The student will administer the medications and monitor the patients before, during, and after the procedure. **GR DEVEL**

**178A-B-C-D-E. Research Seminar.** (2-2-2-2-2) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor. Lab 3 hours. Seminar 1 hour.

**Leggott 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.

**Barkin and Staff**  
Seminars on advanced pediatric dentistry involving anesthesiology, oncology and hematology, periodontology, diagnosis, practice management, future ideas, and ethics. Designed for students interested in advanced study and those considering pediatric dentistry as a specialty. Counseling is provided for postdoctoral education. **GR DEVEL**

**180.02A-B-C-D-E. Pediatric Hospital Dentistry.** (0-3) S, F, W, Sp. Prerequisite: Satisfactory progress in all previous pediatric dental courses. Seminar 3-5 hours per week in Hospital O.R.

**Braham**  
Experience is provided in history-taking, admissions procedures, hospital dental protocol, laboratory tests, and chart documentation. Opportunity to

work with the instructor in the hospital operating room, providing care for the handicapped and other refractory management cases, using a general anesthetic. GR DEVEL

## Pediatrics

**100. Medical Genetics.** (2) F. Lecture 2 hours.

### C. Epstein

Basic aspects of human genetics are presented in a context relevant to the diagnosis, treatment, and counseling of genetic disorders and congenital malformations. Emphasis is placed on the application of genetic knowledge to actual counseling problems. PEDIATRICS

**110. Ped Core Clerkship—UC-SFGH-L-C.** (1.5 per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences.

### Dallman

Practical experience in the ward, newborn nursery, and outpatient clinics with emphasis on case assignments. Teaching and supervision by attending and resident staffs. Required seminars cover aspects of pediatrics, infectious diseases, and child psychiatry. PEDIATRICS

**140.01A. Ambulatory Pediatrics—UC.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### Pantell

Students gain experience in well child care and in dealing with children with acute problems. Emphasis is placed on health maintenance, preventive care, and anticipatory guidance. Conferences focus on general pediatric issues and a review of patients seen in the emergency room. PEDIATRICS

**140.01B. Ambulatory Pediatrics—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### Brown, Coulter, O'Connor

Students evaluate and treat children with a variety of acute and chronic conditions. Patients with a high degree of acuity. There are morning conferences and ER case reviews. Supervision is provided by senior residents, chief resident, and faculty. PEDIATRICS

**140.01D. Outpt Pediatric Clerkship—CHMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

### 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.

### Burnip

Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences for discussion of patients. PEDIATRICS

**140.01G. Inpatient Pediatric Clkshp—K.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### Shinefield

Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences for discussion of patients. PEDIATRICS

**140.01H. Ambulatory Pediatrics—NRMC.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.

### Van Meter

The course aims to provide an intensive "sub intern" experience in outpatient pediatrics at a teaching hospital with a busy primary care clinic and with active subspecialty clinics. PEDIATRICS

**140.01I. Inpatient Pediatric Medicine—NRMC.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.

### Van Meter

Students function as pediatric "sub interns" on the inpatient wards. They assume primary responsibility for patient management of 2-3 hospitalized children, under supervision of the senior resident and pediatric attending staff. Course includes general and subspecialty pediatric cases. PEDIATRICS

**140.01J. Intensive Care Nursery—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### Phibbs

Students gain experience in evaluation and management of sick pre-term and term infants. Supervision is provided, and it is expected that students will assume the role of primary physician in matters of clinical decision-making as well as diagnostic and therapeutic procedures. PEDIATRICS

**140.01K. Neonatology—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### Partridge, D. F. Wong

Students develop skills in assessment of newborns in the setting of a high-risk patient population. The

experience involves care of patients, ranging from the healthy term newborn to the infant requiring intensive supportive care. PEDIATRICS

**140.01L. Nursery Intensive Care Unit—NRMC.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.

### Van Meter

The aim of this course is to offer a "sub intern" experience in managing the common problems encountered in the care of critically ill newborns. PEDIATRICS

**140.01M. Pediatric Critical Care—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.

### Soifer, Nelson, and Staff

Students follow selected patients in the Pediatric Intensive Care Unit and participate in patient presentations, management conferences, and teaching rounds. Emphasis is on cardiovascular and pulmonary physiology in management of critically ill pediatric patients. Students become familiar with relevant literature concerning problems of patients being followed.

**140.02. Off-Campus Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### Rudolph

Clinical clerkship in off-campus hospitals approved by the chairperson of the department and the dean. PEDIATRICS

**140.03. Outpatient Pediatrics—VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### McCann

Experience caring for sick and well children with 27,000 patient visits/year. Preventive medicine and anticipatory guidance along with principles of growth and development. All activities closely supervised by either senior residents or faculty. Daily morning conferences, chart rounds, assigned readings. PEDIATRICS

**140.04. Pediatric Cardiology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Open to UCSF students only.

### Silverman

Experience in clinical evaluation of children with cardiac abnormalities is emphasized. Daily ward rounds on pediatric cardiology patients, attendance at designated cardiac surgical procedures, catheterization, weekly catheterization conference, extensive reading assignments, and daily attendance in private office setting are included. PEDIATRICS

**140.05. Pediatric Private Practice.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. Open to UCSF students only.

### L. P. Smith

Working experience with a pediatrician on the clinical faculty as the pediatrician sees patients in the

office and in the hospital. Student may select time in small group, large group, or subspecialty practice, or a combination of these. PEDIATRICS

**140.06. Adolescent Medicine.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### Gareis

Clinical clerkship in adolescent medicine with emphasis on outpatient clinical experience in a wide range of health problems of the adolescent. PEDIATRICS

**140.07. Developmental Pediatrics in Fresno.** (1.5 per week) W, Sp. Prerequisite: Pediatrics 110.

### D. M. Snyder

Students learn to identify children with developmental disabilities and direct their remediation to allow for achievement of their greatest potential. Various settings are used in acquiring skills in developmental assessment. PEDIATRICS

**140.08. Ambulatory Pediatrics.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### J. E. Anderson

Clinical experience in teaching hospital's busy pediatric clinic, working as member of health care team. Supervision from attending physicians with emphasis on developmental/behavioral approach to pediatric practice. Continuity of care is encouraged and opportunity exists to follow patients admitted to ward. PEDIATRICS

**140.10. Pediatric Hematology—UC-SFGH-CHMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. Open to UCSF students only.

### Koerper, Lubin, Mentzer

The student will participate in ward rounds, outpatient clinic, and laboratory evaluation of blood and bone marrow specimens. The pursuit of special interests in the clinic or laboratory is encouraged. PEDIATRICS

**140.11. Cardiology—CHMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

### Higashino

Students participate in clinical experience including outpatient evaluation, instruction in the noninvasive methods of diagnosis, care of ward medical and surgical cardiac patients, cardiopulmonary laboratory, and cardiovascular conferences. Emphasis is on the physiological principles of diagnosis and management. PEDIATRICS

**140.13. Endocrinology—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

### Grumbach, S. L. Kaplan, F. Conte

Participation in the clinical and investigative aspects of endocrine and metabolic problems in children. Students spend time in the laboratory, on the wards, and in the clinics. PEDIATRICS

**140.14. Juvenile Diabetes.** (1.5 per week) Su. Prerequisite: Medicine 110 and Pediatrics 110.

**Olney**

Work under the direction of the instructor in Diabetic Camp, clinical and management aspects of diabetes. Students have an opportunity to participate in the operation of the camp program and treatment of many aspects of diabetes in children, adolescents, and young adults. PEDIATRICS

**140.15. Oncology-UC.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**Ablin, K. Matthay, Zoger**

Participation in management of patients with solid tumors and leukemia; attendance at pediatric tumor board, ward rounds, and outpatient clinic. Special emphasis on psychosocial problems; supervised reading and discussion with preceptor. PEDIATRICS

**140.16. Pediatric Nephrology-UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**D. E. Potter**

Introduction to general nephrology with children having nutritional problems, ESRD, and chronic renal failure. Post-transplant and dialysis consultations, new cases from the nursery, and cases requiring TPN. Research projects may be arranged with instructors. PEDIATRICS

**140.17. Genetics-UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**C. Epstein, D. Cox**

Evaluation and management of children and adults with hereditary (including cytogenetic) diseases, with particular emphasis on genetic counseling, patterns of human malformation, and the biochemical and genetic mechanisms involved in the pathogenesis and transmission of these conditions. PEDIATRICS

**140.19. Advanced Inpatient Pediatrics-C.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**Giammona**

Students participate in patient care in close association with the house staff and clinical fellows, both in wards caring for sick children and in Newborn Intensive Care Unit, and in rounds and conferences conducted by senior staff. PEDIATRICS

**140.20. Advanced Outpatient Pediatrics-C.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**Giammona**

Students participate in the comprehensive care of children. Experience with various illnesses is provided in appropriate specialty clinics. A wide variety of child care problems will be seen during visits to offices of senior pediatricians participating in the program. PEDIATRICS

**140.21. Allergy-UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**Frick**

Participation in the activities of allergy-immunology trainees, including basic clinical immunology course, journal club, and seminars. PEDIATRICS

**140.23. Neonatal Care-C.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**Lewis**

Students participate in the care of infants in the intensive care nursery in close association with the house staff, fellows, and senior staff and in conferences conducted by senior staff. PEDIATRICS

**140.24. Neonatal Care-MZ.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**R. Ballard**

Experience in normal newborn and intensive care nurseries, according to student's interests and skills. Student participates in the care of transport infants, and on night call. PEDIATRICS

**140.25. Devel & Behavioral Peds-MZ.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Gorski and Staff**

Practical orientation and training for assessment and intervention of motor, cognitive, and social development of normal and high-risk children. Course includes didactic seminars in medical ethics, child psychiatry, neurodevelopmental and behavioral pediatrics. PEDIATRICS

**140.26. Comprehensive Pediatric Care-KP.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Schoen**

Within the country's largest prepaid health care program, students will participate in office visits, urgent ambulatory care, health education, and inpatient care. They will work with staff and resident physicians, nurse practitioners and health educators. PEDIATRICS

**140.27. Inpatient Pediatrics-KP.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Schoen**

Students will perform histories and physical examinations on the pediatric ward under supervision of resident and attending physicians. They will attend resident conferences, see urgent clinic cases with resident and participate in outpatient clinic for discharged patients. PEDIATRICS

**140.29. Inpatient Pediatrics-VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110, Pediatrics 110 and consent of instructor.

**Northway**

Students are assigned to a clinical team of house officers, faculty, and practitioners, and participate in

the care of acutely ill hospitalized children. Students refine skills in history-taking, physical examinations, case write-ups and presentations, assist in special procedures, and attend daily conferences. PEDIATRICS

**140.30. Gastroenterology & Nutrition.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Heyman, Thaler**

Students participate with fellows and staff in the diagnosis and treatment of gastrointestinal and hepatic diseases, and nutritional deficiencies in infants and children. They present patients on wards and in the outpatient clinic, assist with procedures, and attend specialty conferences. PEDIATRICS

**140.31. Inpatient Pediatric Clkshp-VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Nilson**

Opportunity to develop and perfect skills in history-taking, physical examination, case write-ups, presentations, and procedures. Supervised problem-oriented learning/teaching environment fosters basic diagnostic and management skills. Conferences, case work-ups and presentation, night call with resident, and assigned reading. PEDIATRICS

**140.32. Infectious Diseases-FRESNO.** (1.5) Su, F, W, Sp. Prerequisite: Pediatrics 110 and Medicine 110.

**McCarty**

Experience with common and unusual infections such as meningitis, osteomyelitis, pneumonia, perinatal infections, and infections in immunocompromised hosts. Emphasis on discussion of consult patients, close interaction with the microbiology laboratory, and assigned readings. Students will also review fundamentals of antimicrobial therapy. PEDIATRICS

**140.33. Pediatric Immunology/Rheumatology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Pediatrics 110 and Medicine 110, and consent of instructor.

**Wara, Cowan**

Evaluation and care of children with primary immunodeficiency diseases and rheumatologic disorders. Emphasis on ontogeny of immune response as it relates to immunodeficiency, immunologic dysfunction involved in pathogenesis of the disorders, laboratory studies required for diagnosis, and care of children with chronic disease. PEDIATRICS

**140.34. Medical Genetics.** (1.5 per week) Su, F, W, Sp. Prerequisite: 4th-year standing.

**Curry, Winter**

Experience will be gained in medical genetics, including dysmorphism, biomedical genetics and prenatal diagnosis. Rotation will provide general exposure to all these areas and give a basic understanding of methods used to reach specific genetic

diagnoses and exact prenatal detection course for future pregnancies. PEDIATRICS

**140.35. Infectious Disease-UC & SFGH** (1.5 per week) Su, F, W, Sp. Prerequisite: Pediatrics 110.

**Grossman, Tureen, Wintrub**

Students will learn principles of diagnosis and management of common infectious conditions, infectious complications in the immunocompromised host, and neonatal infections; will learn to properly interpret microbiologic data and use the microbiology laboratory. PEDIATRICS

**140.36. Advanced Elective Adolescent Medicine-NRMC.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.

**Van Meter**

The aim of this course is to provide an intensive "sub intern" experience in the practice of adolescent medicine. Experience will include exposure to sport-related injuries, sexually transmitted disease, birth control counseling, and emotional adjustment problems. PEDIATRICS

**140.37. Clinical Clerkship in Adolescent Medicine.** (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of basic clinical clerkships. Open to fourth-year medical students only.

**Irwin, Shafer**

Clinical rotation on outpatient/inpatient adolescent medical service. Clinical experience will include general adolescent clinic, adolescent gynecology clinic, and inpatient consultation on adolescent medical and psychiatric wards. PEDIATRICS

**150.04. Research in Pediatrics-UC.**

(1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Grumbach and Staff**

Student research projects under guidance of faculty members. Programs must be approved by instructors. Students may initiate or continue research programs under supervision of faculty members. PEDIATRICS

**160.01. Clinical Correlation in Peds-UC.** (2) Su, F, W, Sp.

**Rudolph**

Students prepare case presentations weekly from patients on the pediatrics wards. Course correlates patients' problems with work in the required curriculum. Experience on the ward in the clinical setting. PEDIATRICS

**170.01. Peds Devel Resource Overview.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

**L. Crain**

Weekly seminar and reading assignments correlated with observation of the spectrum of community and institutional services; diagnostic, preventive, and program services for individuals with developmental disabilities included. PEDIATRICS

**170.02. Primary School Health Educ.** (1-2) F, W, Sp. Prerequisite: Consent of instructor. Attendance of initial orientation by the curriculum department of the San Francisco Unified School District, scheduled at the first session of the quarter. Field work 3 hours plus class participation. Topic paper optional with consent of instructor for 2 units.

**L. Crain, Ernster**

Health professions students are oriented to working with Primary Grades Health Curriculum Program, and participate, under guidance of qualified instructors, in implementing PGHCP for K-3 grade children in local schools. PEDIATRICS

**170.03. Health Professional and Nuclear War.**

(2) F. Seminar 2 hours.

**Kiefer, Newman**

Seminar exploring nuclear weapons effects, technology and strategy, and the implications of these for health professionals. PEDIATRICS

**180. Human Biochemical Genetics.** (1) F, W, Sp. Prerequisite: Pediatrics 110 or equivalent. Seminar 1 hour.

**Packman**

Selected topics in human biochemical genetics, emphasizing research and concepts of current interest. Course is directed toward physicians, postdoctoral fellows, medical students, and genetic counselors. A seminar format will be used, with directed reading and discussion. PEDIATRICS

**180.01A-B-C-D. Adolescent Development.** (2-2-2-2) § F, W, Sp, Su. Prerequisite: Consent of instructor. Seminar 2 hours.

**Irwin**

A four-quarter course covering the physiologic, psychologic, cognitive and social development of adolescence. Also included is material on sexuality, nutrition, family interaction, cultural differences, legal issues, school behavior, substance abuse and psychiatric problems, and common medical problems. PEDIATRICS

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

**Grumbach and Staff**

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

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

**Grumbach**

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

**400. Staff Conference.** (1.5) Su, F, W, Sp. Interns and residents.

**UC Rudolph**

Conferences include house staff preparation and presentation of patient case histories with reference to the literature, laboratory work, and special studies. Faculty members and consultants from other

departments as well as other universities discuss recent developments in their respective fields. PEDIATRICS

**401. Pediatric-Roentgenology Conf.** (1.5) Su, F, W, Sp. Interns and residents.

**UC Gooding**

Conferences include review and discussion of recent X-ray studies of pediatric cases in the wards and outpatient service. PEDIATRICS

**402. Clinical Seminar.** (1.5) Su, F, W, Sp.

**UC Rudolph**

Seminar includes review and discussion of selected cases of unusual interest, reports on special topics with review of recent literature, and clinicopathological conferences on pediatric cases. PEDIATRICS

**420. Family Interviewing Seminar.** (1) Su, Fa, W, Sp. Prerequisite: Graduate-level student in health sciences health care providers only. Consent of instructor. Seminar 2 hours.

**Baum and Staff**

Seminar topics include family systems, communication patterns, family interviewing, presenting a difficult diagnosis, psychosomatic illness, chronic illness, and common behavioral problems. Teaching methods include group discussion, role play, and video taping. Emphasis is placed on learning through experience. PEDIATRICS

**421. Behavioral Research Seminar.** (1) F, W, Sp. Prerequisite: Graduate-level student in health sciences. Consent of instructor. Seminar 2 hours alternate weeks.

**Boyce and Staff**

A survey of basic principles in epidemiologic research, with special emphasis on issues relevant to behavioral pediatrics. PEDIATRICS

**422. Behavioral/Developmental Core Curriculum.** (1.5) F, W, Sp. Prerequisite: Post-M.D. or graduate nursing students and consent of instructor. Seminar 6 hours.

**P. Kaiser and Staff**

Lectures and discussion of child development theory, clinically relevant research, and related common behavioral issues. Emphasis is on applicability of behavioral pediatrics in clinical practice. Includes screening, temperament, attachment, and hospitalization. Supervised experiences at daycare centers and schools. Reading assignments. PEDIATRICS

**423. Child Development Literature Seminar.**

(1) F, W, Sp. Prerequisite: Graduate-level student in health sciences and consent of instructor. Seminar 1.5 hours alternate weeks.

**Tanner and Staff**

This seminar presents classic theoretical and current research-based formulations of child development. Assigned literature readings are essential to seminar participation. Material covering pregnancy through school age years is presented over two-year cycle. PEDIATRICS

**424. Neurodevelopmental Assessment and Therapy.** (1) W. Prerequisite: By instructor approval; pediatric residents and fellows in behavioral/developmental pediatrics. Lecture 1 hour. Lab 1 hour.

**Tanner and Staff**

Overview of theories and principles of neuromotor development and treatment modalities available for children with developmental disabilities. Includes assessing normal and abnormal sensory-motor development, neurodevelopmental therapy, sensory integration, pre-speech, and feeding therapy. Lecture, discussion, audiovisual aids, and patient demonstration. PEDIATRICS

**450. Clinical Pediatrics-UC.** (1.5 per week) Su, F, W, Sp. Interns and residents.

**UC Rudolph**

Residents, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis and treatment. In addition, the chief resident has certain administrative, teaching, and clinical responsibilities. PEDIATRICS

**451. Clinical Pediatrics-SFGH** (1.5 per week) Su, F, W, Sp. Residents.

**M. Grossman**

Residents, under supervision, are responsible for patient care in the wards, communicable disease section, and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis, and treatment. Emphasis is on diagnosis and management of infection trauma, and pediatric emergencies. PEDIATRICS

**462. Clinical Primary Care.** (1.5 per week) Su, F, W, Sp.

**Rudolph**

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

**463. Clinical Primary Care.** (1.5 per week) Su, F, W, Sp.

**Rudolph**

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

**490. Clinical Pediatrics-SFGH** (1.5 per week) Su, F, W, Sp.

**M. Grossman**

Interns rotate through newborn nursery, pediatric wards and clinic, communicable diseases ward, and emergency room. They are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examination, laboratory tests, and consultation. PEDIATRICS

**495. Clinical Pediatrics.** (1.5 per week) Su, F, W, Sp. Interns.

**UC Grumbach**

Interns, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis, and treatment. PEDIATRICS

## Periodontology

**129. Introduction to Clinical Periodontology.**

(1) Sp. Prerequisite: Oral Biology 128 A-B. Lecture/clinic 2 hours.

**Taggart, Green**

This course is an introduction to clinical periodontal procedures, including examination, diagnosis, and basic periodontal therapy. It will include lecture, laboratory, and clinical practice in treating patients with early periodontal diseases and preventative periodontics. STOMATOLOGY

**130. Periodontal Therapy.** (1) Su. Prerequisite: Perio 129. Lecture 1 hour.

**Taggart**

Introduction to the diagnosis and treatment of periodontal diseases. Emphasis will be placed on examination of the patient, diagnosis and classification of diseases of the periodontium, and treatment planning. The rationale and techniques for treatment of gingivitis and early chronic periodontitis will be discussed. STOMATOLOGY

**131. Periodontal Therapy.** (1) F. Prerequisite: Perio 130. Lecture 1 hour.

**Taggart**

Diagnosis and treatment of periodontal diseases, acute lesions, less common disease of the periodontium, and moderate to advanced periodontitis. Emphasis on diagnosis and treatment planning, considerations for specialty referral when appropriate. Rationale and techniques for treatment of moderate to advanced chronic periodontitis. STOMATOLOGY

**132. Periodontal Therapy.** (2) W. Prerequisite: Perio 131. Lecture 2 hours.

**Taggart**

Surgical periodontics and rationale for periodontal therapy. Emphasis will be placed on the rationale for various surgical modalities of treatment for periodontal diseases. Discussion of controversial treatment programs and medicolegal aspects of periodontal therapy will be included. STOMATOLOGY

**139. Clinical Periodontal Therapy.** (4) Prerequisite: Perio 129. Clinic 4 hours.

**Taggart**

Treatment of a variety of periodontal diseases under the direct supervision of faculty. Small seminar and discussion groups will review diagnosis and treatment modalities. STOMATOLOGY

**149. Clinical Periodontal Therapy.** (4) Su, F, W, Sp. Prerequisite: Perio 139. Clinic 12 hours.

**Taggart**

Treatment of a variety of periodontal diseases in a general practice environment under the direct supervision of faculty. STOMATOLOGY

**161. Periodontal Therapy.** (1) W. Prerequisite: Perio 150A-B-C. Lecture 1 hour.

**Taggart**

Diagnosis and treatment of periodontal diseases, including acute lesions, less common disease of the periodontium, and moderate to advanced periodontitis. Emphasis will be placed on diagnosis and treatment planning, with considerations for specialty referral when appropriate. The rationale and techniques for treatment of moderate to advanced chronic periodontitis will be featured. STOMATOLOGY

**162. Periodontal Therapy.** (1) W. Prerequisite: Perio 161. Lecture 1 hour.

**Taggart**

Surgical periodontics and rationale for periodontal therapy. Emphasis will be placed on the rationale for various surgical modalities of treatment for periodontal diseases. Discussion of controversial treatment programs and medicolegal aspects of periodontal therapy will be included. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**180. Periodontics in General Practice.** (1) W. Lecture 1 hour.

**Nathan**

Implementation of the skills and knowledge of periodontology in the private practice environment. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**401. Examination & Treatment Planning.** (1)

F. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor.

**Shibata**

Lectures on examination and treatment planning. STOMATOLOGY

**401.01 Structure and Physiology of the Periodontium.** (2) F. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours.

**Ryder**

Advanced study in the oral tissues, with emphasis on their histophysiological aspects. STOMATOLOGY

**401.02 Structure and Physiology of the Periodontium.** (2) W. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours.

**Ryder**

Advanced study in the oral tissues, with emphasis on their histophysiological aspects. STOMATOLOGY

**401.03 Structure and Physiology of the Periodontium.** (2) Sp. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours.

**Ryder**

Advanced study in the oral tissues, with emphasis on their histophysiological aspects. STOMATOLOGY

**404. Applied Anatomy.** (1) Sp. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours.

**Ryder**

Course covers anatomy as it relates to anesthesia and periodontal surgery. STOMATOLOGY

**406.01. Hospital Anesthesiology.** (6) S. Prerequisite: Consent of instructor. Seminar 1 hour. Clinic 16 hours.

**Shibata**

Practical course in operating room anesthesia. Instruction in hospital administration, physical and preanesthesia evaluation of the patient, monitoring of vital signs, administration of intravenous psychosedation, general anesthesia, and handling of resultant medical emergencies. Clinical instruction is supplemented by seminars. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**416.03. Original Investigation.** (1-5) Sp. Prerequisite: Enrollment in postgraduate specialty pro-

gram or consent of instructor. Lab 3-15 hours.

**Armitage**

Original research under the supervision of a mentor. STOMATOLOGY

**419.01. Clinical Periodontics.** (5) F. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.

**Shibata**

Clinical procedures in periodontology therapy. STOMATOLOGY

**419.02. Clinical Periodontics.** (5) W. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.

**Shibata**

Clinical procedures in periodontology therapy. STOMATOLOGY

**419.03. Clinical Periodontics.** (5) Sp. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.

**Shibata**

Clinical procedures in periodontology therapy. STOMATOLOGY

**419.04. Clinical Periodontics.** (5) SS1. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.

**Shibata**

Clinical procedures in periodontology therapy. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**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. STOMATOLOGY

**429.02. Periodontal Therapy.** (6) F. Prerequisite: Enrollment in postgraduate periodontal therapy. Clinic 18 hours.

**Shibata**

Clinical procedures in periodontal therapy. STOMATOLOGY

**429.03. Periodontal Therapy.** (6) F. Prerequisite: Perio 429.02. Clinic 18 hours.

**Shibata**

Advanced surgical techniques in management of periodontal lesions. STOMATOLOGY

## 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.

**B. Gibson**

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 1989-90. 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 1989-90. Lecture 2 hours.

**Shetlar**

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

**203. Drug Metabolism.** (3) § Sp. Prerequisite:

Consent of instructor. Lecture 2 hours. Seminar 1 hour. Literature project.

**Sadee**

Study of the in vivo and in vitro biotransformation of foreign compounds with particular emphasis on drugs. When possible, detailed chemical and biochemical mechanisms are considered. PHARM CHEM

**204. Introduction to Computer Programming.** (3) F. Prerequisite: Consent of Instructor. Lecture 3 hours.

**Langridge, Ferrin**

An introduction to computer programming using the C language and the UNIX operating system. During the course, students learn to write, test, and debug programs of increasing complexity. Emphasis is on the basic principles in writing well-structured and modular code. PHARM CHEM

**205. Molecular Biochemistry.** (3) § Sp. Lecture 3 hours.

**Craik**

The emphasis of the course will be on modern principles covering structural and functional aspects of nucleic acid and proteins; molecular biochemical methodologies that focus on topics of pharmaceutical interest; basic theories of molecular biology, plasmids, bacteriophage, nucleic acid and protein characterizations, site-directed mutagenesis, hybridomas and automated microchemical methods for protein and nucleic acid sequence determination. PHARM CHEM

**212A-B. Pharm Sci Computer Prog.** (1, 2) § F, W. Prerequisite: PC 212A or equivalent is pre-



requisite to PC 212B. Lecture A, 1 hour; B, 2 hours. Lab A, 1 hour; B, 1 hour.

**Upton**

A course in computer programming using examples from the pharmaceutical and biomedical sciences. PHARM CHEM

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

**Øie, Giacomini, Hoener**

A basic study of the concentration-time course of drugs in the body, methods of pharmacokinetic analysis and modeling, and discussion of pharmacokinetic/physiologic interrelationships. Conference/workshop emphasizes problem-solving in pharmacokinetics. PHARM CHEM

**214. Adv Kinetics of Absorp & Disposn.** (3) § W. Prerequisite: Pharmaceutical Chemistry 213 and Biochemistry 202 or equivalents. Lecture 2 hours. Lab 3 hours.

**Tozer, Benet**

Advanced consideration of pharmacokinetics including multicompartment models, assessment of intrinsic absorption and disposition parameters, nonlinear kinetics, and correlation of pharmacological response with the concentration-time course of a drug. Conference involves problem-solving exercises. PHARM CHEM

**216. Biomathematical Modeling.** (2) § Sp. Prerequisite: Pharmaceutical Chemistry 212A, 212B or equivalent, or consent of instructor. Lecture 2 hours.

**Siegel**

Mathematical techniques relevant to research in pharmacokinetics, pharmacodynamics, and drug delivery. PHARM CHEM

**219. Enzyme Mechanisms.** (2-3) § F or Sp. Lecture 2-3 hours.

**Santi, Kenyon**

Selected topics on enzyme mechanisms. General survey of enzyme catalysis; general acid-base catalysis, propinquity effects, strain and conformational change. Covalent intermediates in enzyme catalysis. The role of cofactors in enzyme catalysis. Phosphate transfer reactions. PHARM CHEM

**220. Research Conf in Pharmaceutics.** (1) § F, W, Sp. Lecture 1 hour.

**Benet**

A program involving the presentation of core material in pharmaceutical chemistry in the pharmaceutical 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 1989-90.

**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. Not offered 1989-90.

**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 Pharmacy graduate students. Seminar 1-3 hours. Trevor and Staff

An overview of Pharmacology faculty research interests presented in a seminar format to introduce first year graduate students to the various areas of ongoing investigation in the Department of Pharmacology. PHARMACOL

**198. Supervised Study.** (1-5) § F, W, Sp.

**Staff**

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

**199. Laboratory Project.** (1-5) § F, W, Sp.

**Staff**

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

**206A. Mechanisms of Drug Action.** (3) § W. Prerequisite: Consent of instructor. Students must register for both Pharmacology 206A and 206B to receive full credit after completion of both quarters. Seminar 3 hours.

**Bourne and Staff**

Lecture/seminar dealing with fundamental aspects of interactions between chemical compounds and components of biological systems. Mechanisms of drug action at molecular, biochemical, and membrane levels are considered. PHARMACOL

**206B. Mechanisms of Drug Action.** (3) § Sp. Prerequisite: Pharmacology 206A. Seminar 3 hours.

**Lansman**

Second quarter of 2-quarter lecture/seminar dealing with fundamental aspects of interactions between chemical compounds and components of biological systems. Mechanisms of drug action at molecular,

biochemical, and membrane levels are considered. PHARMACOL

**208. Oxidative Drug Metabolism.** (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours.

**Correia, Ortiz de Montellano**

The biochemical, regulatory, and chemical aspects of mixed function oxygenases with particular emphasis on cytochrome P-450. PHARMACOL

**220. Seminar.** (0) § F, W, Sp.

**Correia**

Presentations by guests and staff on current research in pharmacology. PHARMACOL

**250. Research.** (1-8) § F, W, Sp.

**Staff**

PHARMACOL

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

**Staff**

For graduate students engaged in writing the thesis for the master's degree. PHARMACOL

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

**Staff**

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

**300A-B-C. Teaching Practicum.** (1-3, 1-3, 1-3) F, W, Sp. Prerequisite: Advancement to candidacy for the Ph.D. degree.

**Staff**

Opportunity is provided to participate in a formalized way in the teaching of pharmacology under the direction of the faculty. PHARMACOL

## Pharmacy

**111. Non-Prescription Products.** (1) W. Conference 2 hours.

**Yee**

Evaluation and comparison of non-prescription medications and appliances. Discussion on their patterns of use in the community is included. Emphasis is on verbal communications. PHARMACY

**112. Non-Prescription Products.** (1) Sp. Prerequisite: Pharmacy 111. Conference 2 hours.

**Yee**

Continuation of Pharmacy 111. PHARMACY

**114. Biopharmaceutics & Phys Pharmacy.** (3) F. Prerequisite: Concurrent enrollment in Chemistry 115. Lecture 3 hours.

**Hoener, Guy, Siegel**

A study of the physical, chemical, and biological factors which interact and dominate the design of dosage forms as drug delivery systems, including an introduction to the analysis of clinical data. PHARMACY

**115. Biopharmaceutics & Phys Pharmacy.** (4) W. Prerequisite: Pharmacy 114 and concurrent enrollment in Chemistry 116. Lecture 3 hours. Lab 3 hours.

**C. Hunt, Dill, R. Day, Bentz, Siegel, Blake**

Continuation of Pharmacy 114 with the addition of laboratory preparation of basic drug delivery systems. PHARMACY

**116. Biopharmaceutics & Phys Pharmacy.** (4) Sp. Prerequisite: Pharmacy 115. Lecture 3 hours.

Lab 3 hours.

**Szoka, Siegel, Day, Guy, Blake**

Continuation of Pharmacy 115. PHARMACY

**123. Non-Prescription Drugs.** (1) F. Prerequisite: Pharmacy 112. Conference 2 hours.

**C. Yee**

Continuation of Pharmacy 112. PHARMACY

**127. Biopharmaceutics & Dispensing.** (4) F.

Prerequisite: Pharmacy 116 and Pharmacy Administration 112. Lecture 2 hours. Lab 6 hours.

**R. Day, Benet, Siegel**

Continuation of Pharmacy 116 with the addition of training in the professional and dispensing aspects of pharmacy. PHARMACY

**128. Pharmacokinetics.** (3.5) W. Prerequisite: Pharmacy 116. Lecture 3 hours. Conference 1-2 hours.

**Hoener, Giacomini**

Course covers the pharmacokinetic basis of variability in the therapeutic, pharmacologic, and toxicologic effects of drugs. PHARMACY

**129. Pharmacokinetics.** (3.5) Sp. Prerequisite: Pharmacy 128. Lecture 3 hours. Conference 1-2 hours.

**Giacomini, Øie**

Continuation of Pharmacy 128. PHARMACY

**151. Community Health Education.** (2) Sp.

Lecture and discussion 2 hours. Participation in at least four community health education programs.

**R. Gibson, Lem**

Course is designed to train students for participation in community health programs dealing with drug abuse education and other drug-health related areas, such as poison prevention, venereal disease, and birth control. Course may be repeated for credit. PHARMACY

**152. Special Topics in Pharmaceutics.** (2) Sp.

Prerequisite: Pharmacy 116 or concurrent enrollment. Lecture 2 hours.

**Szoka**

An intermediate course offering an opportunity to explore, in greater depth, special drug delivery systems and some fundamental relationships involved in their design or action. PHARMACY

**153. Seminar Preparation Techniques.** (1) F.

Prerequisite: Consent of instructor. Seminar 1 hour. Conference 1 hour.

**Hunt, Goyan**

Preparation, presentation and evaluation of research seminars. PHARMACY

**154. Percutaneous Absorption.** (2) W. Prerequisite: First-year standing. Lecture 2 hours.

**Wester, Guy**

Course presents material dealing with the penetration of drugs and other chemicals across the skin. PHARMACY

**155. External Drug Products.** (3-4) W, Sp. Prerequisite: Pharmacy 127. Lecture 2-3 hours. Lab 3-6 hours.

**Blake, Hoener**

Discussion and laboratory exercises on the formulation of products for external use, including drugs and cosmetics. The course deals with the properties and ingredients of such products. PHARMACY

**156. Parenteral Products.** (3) F, W, Sp. Prerequisite: Pharmacy 127. Lecture 2 hours. Lab 3 hours.

**Blake**

Introduction to the formulation and technology of parenteral preparations. Laboratory includes participation in hospital activities in which parenterals are made and administered. PHARMACY

**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 semisolid pharmaceuticals. Special emphasis is given to the problems encountered and the materials used in pharmaceutical manufacturing. PHARMACY

**166. Pharmaceutical Technology.** (3) W. Prerequisite: Pharmacy 165. Lecture 1 hour. Lab 6 hours.

**Blake, Gibson**

An introduction to the technology of solid dosage forms, especially tablets and capsules. Emphasis is placed on problems encountered in preparation of this type of medication. PHARMACY

**167. Pharmaceutical Technology.** (3) Sp. Prerequisite: Pharmacy 166. Lecture 1 hour. Lab 6 hours.

**Blake, Gibson**

An advanced study of the relationship of the art and science of pharmaceutical technology to solid dosage forms. PHARMACY

**168. Clinical Pharmacokinetics—UC.** (2) F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor. Reports and conferences 6 hours. Enrollment limited.

**Tozer, Winter, Upton, Salazar**

Discussion and review of the literature in the clinical application of pharmacokinetic principles in drug therapy. PHARMACY

**168.02. Clinical Pharmacokinetics—UCI.** (2) F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor. Reports and seminar 3 hours. Enrollment limited.

**Shimomura**

Discussion and review of the literature on the clinical application of pharmacokinetic principles in drug therapy. PHARMACY

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

**Staff**

Group studies of selected topics in pharmacy. PHARMACY

**170.05. Clinical Drug Investigations.** (2) W, Sp. Prerequisite: Introductory statistics recommended. Lecture 2 hours.

**Williams, Wester, Schwartz**

A ten-week course that will discuss methods for generating data about drug risk and efficacy in clinical investigations, with emphasis on the randomized clinical trial. Statistical methods used in modern clinical trials will be discussed. PHARMACY

**170.06. Molec & Cell Biology in Drug Devel.** (2) Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**Szoka**

Introduction to the role of cellular and molecular biology in developing new drugs, hormones, or therapeutic agents. PHARMACY

**170.07. Communication Skills.** (1.5) Sp. Prerequisite: First-year standing. Lab 2 hours. Seminar 1 hour. Enrollment limited.

**Lem**

Aspects of communication which focus on skills pertinent to contemporary pharmacy settings. Discussion of principles of communication and practice of specific techniques in simulated practice situations. PHARMACY

**198. Supervised Study.** (1-5) F, W, Sp.

**Staff**

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

**199. Laboratory Project.** (1-5) F, W, Sp.

**Staff**

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

## Pharmacy Administration

**111. Pharmacy Laws.** (2) W. Lecture 2 hours.

**J. R. Nielsen**

Introduction to court systems and administration boards and their relationship to the health professions. Discussion of basic principles of criminal law, negligence, and business law with particular emphasis on the legal relationship and responsibility of the practitioner to the patient. PHARMACY

**112. Pharmacy Laws.** (2) Sp. Lecture 2 hours.

**J. R. Nielsen**

A detailed examination of federal and state drug, cosmetic, and narcotic laws; their promulgation, enforcement, and effect upon the practice of pharmacy. Course involves some administrative work. PHARMACY

**150. Marketing.** (4) W. Lecture 4 hours.

**Lucaccini**

An analysis of the marketing functions that facilitate the flow of pharmaceutical products from production to consumption, and of the decision-making processes of marketing institutions. Emphasis is given to the environmental factors affecting marketing decisions. PHARMACY

**154. Community Pharmacy Management.** (4)

Sp. Prerequisite: Basic economics or consent of instructor. Lecture 4 hours.

**Lucaccini**

Principles of management, specially directed toward developing familiarity with current problems peculiar to community pharmacy operation. Emphasis is given to elements in locating, organizing, operating, and adapting a pharmacy. PHARMACY

**155. Accounting.** (3) F. Lecture 1 hour. Discussion 2 hours.

**Lucaccini**

Consideration of the fundamental concepts of accounting and its applied uses, with special emphasis on the accounting requirements of the community pharmacy. Problem cases and demonstrations are presented. PHARMACY

**160. Hlth Prof Family & Business Law.** (2) Sp. Lecture 2 hours.

**J. R. Nielsen**

A survey of laws relating to landlord-tenant dissolution, property division, support payments, probate and decedent's estates, with particular emphasis on how pharmacists may expect their practice to be affected by these laws, and some practical preventive legal techniques. PHARMACY

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

**Staff**

Group studies of selected topics in pharmacy administration. PHARMACY

**180A-B-C. Legal Problems in Health Care.** (2-2-2) F, W, Sp. Prerequisite: Third-year standing

and consent of instructor.

**J. R. Nielsen**

Selected problems with directed readings and library research on current legal (statutory and case law) issues affecting the delivery of pharmacy services. Discussion and paper. PHARMACY

**198. Supervised Study.** (1-5) F, W, Sp.

**Staff**

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

## Physical Therapy

**104B. Physical Therapy Procedures.** (5) F. Prerequisite: Completion of course work in summer term in the Physical Therapy Curriculum. Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 2 hours. Lab 8 hours.

**Richards, Byl**

Second course in a series of four courses in physical therapy procedures. Assessment, goal setting, treatment, evaluation and problem solving of musculoskeletal pathologies. A library review of the literature is also required in preparation for the development of a research proposal. PHYS THER

**104C. Physical Therapy Procedures.** (5) W.

Prerequisite: Completion of course work in summer term and fall quarter. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 2 hours. Lab 8 hours.

**Radtka, Chape, Byl**

Continuation of Physical Therapy Procedures series. Basic neurophysiological and neuroanatomical principles of normal and pathological motor function presented. Various physical therapeutic concepts of assessment, goal setting, treatment planning, treatment, evaluation, and problem solving presented for the patient with neurological dysfunction. Patient demonstrations included; field work coordinated through PT 104A. PHYS THER

**104D. Physical Therapy Procedures.** (3) Sp.

Prerequisite: Completion of course work in summer term, fall and winter quarters. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 2 hours. Lab 4 hours.

**Sadowsky, Richards**

Continuation of Physical Therapy Procedures series. Physical therapy approach to assessment and treatment of pediatric conditions. Theory, assessment, treatment, physiological and functional ramifications of amputations, prosthetics, and orthotics. Patient evaluation and treatment of dysfunction of the cardiopulmonary, vascular, and integumentary systems. Patient demonstrations; practical applications in field work in PT 410A. PHYS THER

**105. Physical Med & Rehabilitation.** (3) W.

Prerequisite: Completion of course work in sum-

mer term. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 3 hours.

**Berrol**

Course presents the philosophy of rehabilitation and medical management of chronic diseases and the multiple handicapped person. Particular emphasis is on brain damage, spinal cord injuries and cerebrovascular accidents. PHYS THER

**106D. Specialty Medical Management of Disease: Internal Medicine.** (3) W. Prerequisite:

Completion of course work in fall quarter. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 3 hours.

**Roost**

Course presents the diagnostic and medical concerns that guide the internist in decision making. Outlining the contraindications, precautions, and prognosis helps guide the physical therapist in designing management programs for patients with primary or secondary internal medical problems. The health care team and team relationships are also presented. PHYS THER

**106E. Specialty Medical Management of Disease: Psychiatry.** (2) Sp. Prerequisite:

Completion of course work in fall quarter. Open only to students enrolled in the Curriculum; or by consent of program director. Lecture 2 hours.

**Byl**

Course presents the psycho-social diagnostic and management concerns of patients with medical problems, those with common emotional and social problems, and those challenged with adjustment to physical disability. The physical therapist learns techniques of history taking and counseling appropriate to physical therapeutic management strategies. PHYS THER

**108. Basic Medical Procedures.** (2) Sp. Prerequisite:

Completion of course work in summer term, fall and winter quarters. Lecture 1 hour. Lab 2 hours.

**Simpson**

Presentation of basic procedures for total and emergency care of the patient. Emphasis on interpretations of vital signs, temporary emergency intervention, sterile techniques, wheelchair prescription, burn evaluation and treatment, as well as communication in various situations. PHYS THER

**109A. PT Professionalism and Ethics.** (3) Sp.

Prerequisite: completion of coursework in summer, fall, and winter. Open only to students enrolled in the Curriculum, or by consent of program director. Seminar 3 hours.

**Radtka**

This series of seminars develops the concepts of teamwork, interpersonal communication, documentation, quality assurance, ethics, standards of practice, medical legal rights, scope of professional practice and licensing, and principles of preparing educational programs for patients. PHYS THER

**109B. PT Practice and Administration.** (2) F. Prerequisite: completion of coursework in summer session 3. Open only to students enrolled in the Curriculum, or by consent of program director. Seminar 2 hours.

**Byl**

This series of seminars builds a foundation of knowledge in health care administration, including personnel management, budgeting, financial planning, third-party payors, Medicare, MediCal, and trends in physical therapy education and practice. PHYS THER

**109C. Practice, Professionalism, and Administration.** (2) Sp. Prerequisite: completion of coursework in summer, fall, and winter. Open only to students enrolled in the Curriculum, or by consent of program director. Seminar 2 hours.

**Byl**

This series of seminars builds a foundation of knowledge in health care administration including personnel management, budgeting, financial planning, third-party payors, Medicare, MediCal, and trends in physical therapy education and practice. PHYS THER

**110. Orthopedics: Diagnos & Treatment.** (2) F. Prerequisite: Completion of PT 200, PT 201, PT 202 and concurrent enrollment in Pathology 135.01 Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 2 hours.

**Hoaglund**

Course presents the diagnostic, medical, and surgical principles and techniques which guide decision making and management by the orthopedic surgeon. Contraindications, precautions, and prognosis are discussed to guide the decision making of the physical therapist. PHYS THER

**111. Neurology: Diagnosis & Treatment.** (2) W. Prerequisite: completion of PT 200, Anatomy 103.01, and Pathology 135.01. Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 2 hours.

**Lowenstein**

Course presents the diagnostic and medical principles which guide decision making and clinical 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. Independent 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.

**Byl, Radtka**

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 substitute for core curriculum coursework. PHYS THER

**200. Neuromusculoskeletal Anatomy.** (6) SS3. § 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 lymphic 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) SS3. § 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.

**Byl, 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) SS3. § 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.

**Byl**

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

**251. Research Design and Methodology.** (2) SS3. § 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 ap-

praisal of research designs used in physical therapy and practical problem solving; foundation course for developing a research project. PHYS THER

**252. Research Sem: Critique of PT Lit.** (1) W. § Prerequisite: Completion of a course in statistics. Open only to students enrolled in the Curriculum, or by consent of program director. Seminar 3 hours.

**Byl**

The first seminar of a research series focusing on problems of research in physical therapy, practical statistics, writing abstracts and critiques of research, literature review, including submission of a literature review on the student's proposed research topic. PHYS THER

**253. Research Sem: Proposal Critique.** (1) Sp. § Prerequisite: grade B or better in PT 250. Open only to students enrolled in the Curriculum or by consent of program director. Seminar 3 hours.

**Byl**

Converting the research question to a research hypothesis, and proposal writing including preparation of a proposal for a research project. PHYS THER

**410. Clinical Clerkship.** (2) W. Prerequisite: Completion of academic coursework with overall B average. Open only to students enrolled in the Curriculum, or by consent of program director. Clinic 1 day/week.

**Radtka**

Students observe and assist the physical therapy clinician in the provision of assessment, evaluation, and physical therapy treatment services in one practice setting, one day a week for 11 weeks. PHYS THER

**411. Clinical Clerkship.** (2) Sp. Prerequisite: Completion of academic coursework with overall B average. Open only to students enrolled in the Curriculum, or by consent of program director. Clinic 1 day/week.

**Radtka**

Students develop their physical therapy assessment skills and integrate their didactic information with patient treatment by working closely with a clinical perceptor in the clinical setting to evaluate patients under supervision and directly observe staff provide physical therapy treatment. PHYS THER

**412. Clinical Clerkship.** (9) Su. Prerequisite: PT 410 and PT 411. Open only to students enrolled in the Curriculum, or by consent of program director. 40 hours/week, 5 days/week for 6 weeks.

**Radtka**

Students provide assessment, evaluation, and physical therapy treatment under the direct supervision of a physical therapist. Students must demonstrate satisfactory completion of this clerkship before progressing to the next clerkship. PHYS THER

**413. Clinical Clerkship.** (9) Su. Prerequisite: PT 412. Open only to students enrolled in the Curriculum, or by consent of program director. 40 hours/week, 5 days/week for 6 weeks.

**Radtka**

Students provide patient care under supervision in a clinical facility affiliated with UCSF. Students must satisfactorily complete this clerkship prior to taking PT 414. PHYS THER

**414. Clinical Clerkship.** (9) Su. Prerequisite: PT 412 and PT 413. 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 the guidance and supervision of a clinical perceptor in a clinical facility affiliated with UCSF. The student is expected to progress to increased independence of physical therapy practice. PHYSICAL THERAPY

## Physiology

**100. Organ System Physiology.** (6) § W. Prerequisite: Anatomy 100 and 102, and concurrent enrollment in Biochemistry 100A-B; or consent of instructor. Lecture 4 hours. Lab 4 hours. Conference 2 hours.

**Lisberger**

Normal function of the cardiovascular, respiratory, and renal systems and the metabolic functions of the body as a whole are studied in lectures, conferences, laboratory exercises, demonstrations, and clinical illustrations. PHYSIOLOGY

**101. Endocrinology & Gastroenterology.** (5) § Sp. Prerequisite: Anatomy 100, Biochemistry 100A-B, Physiology 100, or consent of instructor. Lecture 5 hours. Lab 1 hour.

**Lingappa**

The structure of the endocrine glands and the physiology of the endocrine and gastrointestinal systems, together with selected aspects of the pathology and pharmacology of these systems, are studied in lectures and laboratory. PHYSIOLOGY

**110. Integrative & Nutritive Systems.** (6) § Sp. Prerequisite: College-level biology, physics, and chemistry, or consent of instructor. Lecture 5 hours. Conference 3 hours.

**A. Miller**

Introduction to organ systems with emphasis on nervous, endocrine, circulatory, respiratory, and alimentary function in vertebrates. Importance of organ systems for the success of multicellular forms serves as focus. Fundamental cell processes are also discussed, emphasizing differential function. 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.

**Ganong and Staff**

Physiology of the human gastrointestinal and endocrine systems will be studied. 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.

**Korenbrodt 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

**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

**200. Directed Reading Seminar.** (0) § F, W, Sp. Prerequisite: Consent of instructor.

**Ganong and Staff**

Directed reading organized in a seminar or tutorial fashion to review aspects of physiology under supervision of a member of the faculty. PHYSIOLOGY

**201. Regulatory and Integrative Physiology.** (4) Sp. § Prerequisite: Physiology 100 or equivalent. Lecture 2 hours.

**Reid**

The purpose of this course is to review in depth selected topics in regulatory and integrative physiology. The emphasis will be on cardiovascular, renal, and respiratory physiology, but other systems will also be covered. PHYSIOLOGY

**204. Topics in Physiology.** (2-3) § Sp. Prerequisite: A minimum of six units of introductory physiology. Seminar 2 hours. Optional term paper for additional unit.

**Rothman**

This seminar discusses selected topics in cellular and integrative physiology. Readings are drawn from primary and secondary sources. PHYSIOLOGY

**206. Adv Kidney & Electrolyte Physiol.** (2-3) § Sp. Prerequisite: Physiology 100 or 125 and consent of instructor. Lecture 2-3 hours. Offered in alternate years. Offered 1989-90.

**C. Berry**

Current theories regarding renal hemodynamics and regulation of whole body acidbase, electrolyte and fluid balance will be discussed. Emphasis will be placed on the transport mechanisms operating across renal tubular membranes. PHYSIOLOGY

**210. Cellular Mechanisms of Secretion.** (2) § Sp. Prerequisite: Physiology 101, Biochemistry 245, or consent of instructor. Lecture 1 hour. Seminar 1 hour.

**J. A. Williams, Lingappa**

Discussion of current literature pertaining to the mechanism of synthesis, packaging, and release of secretory proteins including hormones and digestive enzymes. PHYSIOLOGY

**211. Membrane Physiology.** (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**Widdicombe and Staff**

Introduction to mechanisms by which ions and small molecules cross biological membranes in response to both physical forces and cellular metabolism. PHYSIOLOGY

**221. Cardioasc-Renal-Pulmonary Sys.** (2) § F, W, Sp. Prerequisite: Physiology 100 or equivalent. Lecture 2 hours.

**Staff**

Course includes critical reviews of topics of current importance, presentation of unsolved problems of Staff, and critical evaluation of published articles by the group. The total program is presented over six successive quarters. PHYSIOLOGY

**223. Physiology Research Seminar.** (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Course may be repeated for credit.

**Ganong**

Seminar presentations by guest lecturers, 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. PHYSIOLOGY

**224. Molec Biol of Lipid Metabolism.** (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1989-90.

**Taylor, Fielding**

The structure and regulation of the genes and proteins that control lipid metabolism, including plasma apolipoproteins, receptors, and enzymes. Molecular and cellular biology of mammalian lipid metabolism examined with respect to regulation of various proteins involved in transport, binding, and utilization of lipids. PHYSIOLOGY

**250. Research.** (1-8) § F, W, Sp. Prerequisite: Consent of instructor. Lab variable.

**Staff**

PHYSIOLOGY

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

**Staff**

For graduate students engaged in writing the thesis for the master's degree. PHYSIOLOGY

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

**Staff**

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

**300. Teaching Practicum.** (0) § F, W, Sp. Prerequisite: Previous training in physiology and consent of instructor. Lecture and lab variable.

**Staff**

Practice in teaching physiology under faculty supervision. Students supervise laboratory work, conduct conferences, deliver lectures, and assist in preparing and grading examinations. Responsibilities are assigned according to the individual's stage of development. PHYSIOLOGY

**301. Scientific Writing.** (0) § Su, W. Prerequisite: Consent of instructor. Seminar 4 hours.

**Coleridge, Zeiger**

A seminar designed to teach postdoctoral fellows and graduate students how to best put into words, tables and figures work done in the laboratory, and how to do so clearly, simply, precisely, convincingly, and briefly, so that others may understand. PHYSIOLOGY

**302. Teaching Techniques.** (0) § F, W. Prerequisite: Consent of instructor. Lecture 1.5 hours. Enrollment limited.

**Staub**

A course in teaching techniques. Students present short lectures, and videotapes of these presentations are analyzed by self- and group criticism. PHYSIOLOGY

## Preventive Dentistry and Community Health

**199. Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor.

**Staff**

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

## Psychiatry

**First-Year Coordinated Instruction**—This course provides a first opportunity to interview medical patients in small group settings, guided by experienced clinicians. Useful medical information is gathered in a comfortable, professional interchange, and one's identity as a physician also begins emerging in the process.

**PGY I Courses**—The Department of Psychiatry is currently developing new courses for PGY I residents. Please refer to the quarterly Schedule of Classes for a listing of those courses in the 400 series.

**100A. Psychological Basis of Medicine.** (2) F. Lecture 2 hours. Seminar 1 hour.

**Horowitz, Marmar, Kaltreider**

Introduction to the basic psychological principles underlying response to the stress of illness and its treatment, with emphasis on mental mechanisms, development, death and dying, and character style. PSYCHIATRY

**100B. Illness Behavior.** (1) W. Seminar 2 hours.

**Brodsky, F. Cohen**

Introduction to psychological principles influencing health behaviors and the physician-patient relationship. Presentation of the social and cultural factors that affect patients' health and illness behavior when well, when they fear illness, when ill, during rehabilitation and after recovery. PSYCHIATRY

**110. Psychiatry Core Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C, Psychiatry 100A, 100B and 131A-B. Open to UCSF students only.

**Kaltreider**

Six-week assignment to a psychiatric service at UC, SFGH, VAMC, MZ, L, or VAF. Students, under supervision, are responsible for patient evaluation and participation in treatment planning for inpatients, outpatients, and consultation/liaison. They attend seminars related to clinical work, and make

field visits to other types of psychiatric facilities.  
PSYCHIATRY

**131A-B. Intro to Clinical Psychiatry.** (2-2) W, Sp. Lecture 1 hour. Seminar 2-3 hours.

**Kaltreider**

Introduction to clinical psychiatry with particular emphasis upon knowledge important in general medical practice. Course format includes lectures, small group teaching, interviewing patients, syllabus reading, and the use of clinical videotapes and film.  
PSYCHIATRY

**140.01. Advanced Psychiatry Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry.

**Kaltreider**

Participation, with supervision of attending and resident staff of the Department of Psychiatry, in psychiatric assessment, treatment and/or consultation/liason with adult or child inpatients or outpatients. Special focus experiences may be arranged.  
PSYCHIATRY

**140.02. Off-Campus Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry.

**Kaltreider**

Clinical clerkship in off-campus hospitals, approved by the chairperson of the department and the dean.  
PSYCHIATRY

**140.05. Clinical Psychiatry.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry.

**Kaltreider**

Participation, under close supervision in accordance with students' level of experience and special interests, in clinical psychiatric treatment of adult or child inpatients or adult outpatients.  
PSYCHIATRY

**140.06. Consultation Clerkship-VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry.

**Ahles**

Supervised evaluation and treatment of patients on the Psychiatry Consultation Service, Liaison Units, Psychosomatic Clinic, and Emergency Room. Learning opportunities include teaching rounds, consultation seminar, biopsychosocial rounds, and consultation syllabus.  
PSYCHIATRY

**150.01. Psychiatric Research.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry.

**Kaltreider, Jones**

Participation according to students' level of experience in experimental work in areas such as neurophysiology, operant conditioning, psychophysiology, immunochemistry, and nonlexical communication. All work is under the close supervision of members of the faculty.  
PSYCHIATRY

**150.03. Sex Therapy & Medical Practice.** (1.5 per week) F, W, Sp. Prerequisite: Consent of in-

structor and Department of Psychiatry.

**Gendel**

Effect of sex roles, self-esteem, attitudes, and values of clinician on treatment of sexual problems. Case studies, role playing, group discussion, film used to develop skills in introductory sex counseling. Readings, research project, or special interest paper may also be done.  
PSYCHIATRY

**170.01. Intro to Study of Suicide.** (2) § F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Lecture 2 hours.

**Motto**

Suicide is surveyed from a multidisciplinary approach in seminars led by persons working in the field.  
PSYCHIATRY

**170.02. Alcoholism.** (1) F. Lecture 1 hour.

**P. Stewart**

General issues in substance abuse as well as the pharmacologic, medical, and neurologic aspects of alcohol abuse. Treatment issues will be considered with emphasis on Alcoholics Anonymous. Family issues arising from alcohol abuse and special concerns for the health professional.  
PSYCHIATRY

**170.12. Medical Scholars Program Workshops.**

(1-2) F, W, Sp. Prerequisite: Permission of the instructor. Workshop 2-4 hours.

**Fullilove**

Workshops in anatomy, neuroanatomy, cell biology, and physiology, offered concurrent to the first-year course, will present challenging material in the form of problem sets which students will solve in groups. Material, geared toward high-achieving students, will augment basic coursework with clinical and basic science information.  
PSYCHIATRY

**170.14. Research Conference.** (1) F, W, Sp. Workshop: 2 hours.

**Fullilove**

This conference provides an opportunity to gain insights into the role of research, examine the methodologies for conducting research, and learn to present research findings.  
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

**180. Sexual Issues in Medical Practice.** (2) W. Seminar 2 hours.

**Gendel, Bonner**

Social, behavioral, and clinical aspects of human sexuality are covered in a series of lectures and seminars. Lectures present didactic material and seminars focus on clinical and ethical problems related to sex and medical practice.  
PSYCHIATRY

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

**L. Epstein and Staff**

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

**214. Practice of Clinical Social Work.** (1.5) § F, W, Sp. Prerequisite: 1 year of clinical social work. Restricted to interns in clinical social work. Lecture 1.5 hours.

**H. Roth**

This course aims at integrating developmental and clinical theories with clinical social work practice toward enhancing clinical, conceptual, and consultative knowledge and skills.  
PSYCHIATRY

**400. Com Mental Health System.** (1) Su, W. Required for first-year residents in Psychiatry. Seminar 1 hour.

**Surber**

Focus is on special treatment issues involved in the care of the chronically disabled patient and of patients of various ethnic and minority backgrounds.  
PSYCHIATRY

**401. Intro to Clinical Interviewing.** (1) S, W. Prerequisite: Required for first-year residents in Psychiatry. Seminar 1 hour.

**Jacobs, Goldfinger**

Course teaches the rudiments of interviewing psychiatric inpatients.  
PSYCHIATRY

**402. Introduction to Psychopathology.** (1) Su, W. Required for first-year residents in Psychiatry. Seminar 1 hour.

**Lu**

Course provides a grounding in phenomenology and descriptive diagnostic features of the major psychopathologies, including the following types of disorders: schizophrenic, affective, organic mental, severe personality, and substance abuse.  
PSYCHIATRY

**403. Intro to Psychopharmacology.** (1) Su, W. Required for first-year residents in Psychiatry. Seminar 1 hour.

**Batki**

Course addresses basic issues in prescribing, including patient compliance, the placebo effect, and the dynamic significance of medications. Also includes a review of basic neurochemical processes.  
PSYCHIATRY

**404. Intro to Child Development.** (1) Su, W. Required for first-year residents in Psychiatry. Seminar 1 hour.

**Hanson**

An introduction to developmental framework, with emphasis on ages 0-3 years.  
PSYCHIATRY

**411. Forensic Psychiatry.** (1.5) W. Required for second-year residents in Psychiatry. Seminar 1.5 hours.

**Terr**

An elective seminar discussing the major aspects of forensic psychiatry relevant to the practice of the clinician. Topics covered include competency, commitment, and criminal responsibility.  
PSYCHIATRY

**413. Psychol Aspects of Psychr.** (1) F, W. Prerequisite: Required for second-year residents in Psychiatry. Seminar 1 hour.

**Marmar**

Examination of neurotic and character disorders from a psychodynamic perspective.  
PSYCHIATRY

**414. Psychobiology.** (1) F, W, Sp. Prerequisite: Required for second-year residents in Psychiatry. Seminar 1 hour.

**J. Mueller**

Seminar explores biochemistry, physiology, and neuroanatomy as related to mental functioning and behavior, and applies concepts to the understanding of etiology and biological treatment of psychoses. Phenomenology and psychopathology of disorders and rationale for various psychological interventions are studied.  
PSYCHIATRY

**415. Intro to Clinical Research.** (1) W. Prerequisite: Psychiatry Resident II standing. Seminar 1 hour.

**Zegans, Temoshok**

Course will introduce residents to clinical research as an essential body of knowledge and skills which can be integrated into present and future clinical

work. Consideration of research within four broad paradigms: intrapsychic, sociocultural, behavioral psychological, and psychobiological. PSYCHIATRY

**416. Psychoanalytic Theory.** (1) F, W, Sp. Prerequisite: Required for second-year residents in Psychiatry. Seminar 1 hour.

**Baumbacher**

Seminar offers instruction in the theoretical bases of psychoanalysis. PSYCHIATRY

**417. Child Psychopath/Psychotherapy.** (1) Su, F. Prerequisite: Required for second-year residents in Psychiatry. Seminar 1 hour.

**Binger, I. Philips**

Seminar covers the theory and implementation of the technique of psychotherapy with children. Emphasis is placed on play therapy. The seminar will also cover psychopathology as manifested in children, including descriptions and possible ideologies. PSYCHIATRY

**421. Psychoanalytic Psychotherapy.** (1) F, W, Sp. Required for third-year residents in Psychiatry. Seminar 1 hour.

**Amini, Baumbacher**

Course explores the application of psychoanalytic theory to psychotherapy. PSYCHIATRY

**422. Social Psychiatry.** (1.5) F, W, Sp. Prerequisite: Required for third-year residents in Psychiatry, or consent of instructor. Seminar 1.5 hours.

**F. A. Johnson, Pearlman**

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 psychiatry 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 psy-

chiatry 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/liason 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) § Sp. 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

**180.06. Clin Health Psych Seminar.** (1.5) § F, W, Sp. Prerequisite: Experience and/or course work in either research methods or clinical theory

and intervention. Consent of instructor. Seminar 1.5 hours.

**Temoshok**

Participants and invited guests will present their in-progress research ideas and proposals, data analyses, and/or manuscript drafts for critique. Relevant literature reports will also be discussed. PSYCHIATRY

**180.08. Brain-Behavior Research Methods.** (3) § Sp. Prerequisite: Survey of physiological psychology, or equivalent. Lecture 2 hours. Seminar 1 hour. Offered in alternate years. Offered 1989-90.

**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

**181.02. Cerebral Hemispheric Specialization.** (2) § W. Prerequisite: Background in neurophysiology, anatomy, cognitive psychology; intended for advanced students. Consent of instructor. Seminar 2 hours. Offered in alternate years. Offered 1989-90.

**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

**185. Nonverbal Communication.** (1) W. 8-hour workshop plus research project. Not offered 1989-90.

**Ekman**

Reading messages from the face and body; what patients reveal without words about their feelings and personality, and what you are revealing to them. 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

**200. Learning & Cognition.** (4) § F. Prerequisite: Graduate standing in Health Psychology Program, or upper division courses in learning and cognitive

psychology, and consent of instructor. Seminar 4 hours. Offered in alternate years. Not offered 1989-90.

**Staff**

Course provides a basis for continued reading of current research and theory in learning and cognition, and for designing interventions in health transactions based on readings; identifies and traces history of major issues and viewpoints. PSYCHIATRY

**202A-B. Computer Simulation of Human Interaction.** (3-3) § W, Sp. Prerequisite: Psychology 257 or equivalent. Lecture 1 hour. Lab 6 hours. Not offered 1989-90.

**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

**203. History & Systems in Psychology.** (3) § F. Seminar 3 hours. Offered in alternate years. Not offered 1989-90.

**Staff**

The history of psychology will be surveyed from the perspectives of contemporary views of the philosophy of science and of psychology. Major systems of thought, perspectives, and approaches used will be reviewed, from earliest times to the present. 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

**210. Personality Psychology.** (4) § F. Prerequisite: Consent of instructor. Lecture 4 hours. Offered in alternate years. Not offered 1988-89.

**F. Cohen**

General and systematic issues in the study of personality; theoretical and methodological issues in the assessment of personality and in research on personality. PSYCHIATRY

**211A-B-C. Theories of Personality.** (2-2) § F, W, Sp. Prerequisite: Graduate standing and consent of instructor. Psychology 211A is prerequisite to 211B & 211C, but may be taken independently. Seminar 2 hours. Enrollment limited.

**J. Fisher**

Survey of major contemporary theories of personality, including some more recent, selected philosophical points of view; study of their structure, how they conceptualize personality development, how they relate to empirical phenomena, and what research is generated by them. PSYCHIATRY



**212. Psychological Stress & Coping.** (4) § Sp. Prerequisite: Consent of instructor. Seminar 4 hours. Offered in alternate years. Offered 1989-90.

**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

**213. Seminar on Emotion.** (1) § F, W, Sp. Prerequisite: Knowledge in at least one or two substantive areas such as social psychology, cognition, psychopathology, cultural anthropology. Seminar 2 hours biweekly. Offered in alternate years. Not offered 1989-90.

**Ekman**

Seminar will cover discussions of a variety of theories and research concerned with emotion, such as definitions; expression and behavior; physiological concomitants; relationships with cognition, consciousness, and culture; philosophical implications; and biopsychosocial applications. Guest speakers included. PSYCHIATRY

**221. Prog Eval in Hlth & Human Serv.** (2) § Sp. Prerequisite: Intended for graduate and professional students. Consent of instructor. Seminar 2 hours. Not offered 1988-89.

**Attkisson**

A seminar designed to provide a basic overview of the organizational context of program evaluation; design and implementation of information systems; assessment of community needs; evaluation of program quality and effectiveness, and training of evaluators. 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. Physl Aspects of Hlth Psychol.** (4) § F. Prerequisite: Graduate standing in Health Psychology program or consent of instructor. Lecture 4 hours. Offered in alternate years. Not offered 1989-90.

**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

**231. Introduction to Biopsychology.** (4) § W. Prerequisite: Consent of instructor. Lecture 4 hours.

Not offered 1989-90.

**Staff**

An overview of the following four areas and their relationship to health behavior: brain sciences, psychoneuroimmunology, psychoendocrinology, and psychopharmacology. 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. Not offered 1989-90.

**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

**240. Social Psychology.** (4) § W. Prerequisite: Consent of instructor. Lecture 4 hours. Offered in alternate years. Offered 1989-90.

**Lieberman, Adler**

A critical review of social psychological theory and research. Topics include role theory, attribution theory, group dynamics, interpersonal relations, social influence, decision making, attitude formation and change, and the application of social psychology to problems of health and health care. 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 1989-90.

**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 1989-90.

**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 1989-90.

**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

**261A-B-C. Intro to Health Psychology.** (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Offered in alternate years. Offered 1989-90.

**Staff**

Provides an overview of the entire field of health psychology and places it in relationship to other areas of psychology and allied disciplines. Scientific, professional, ethical, and educational issues will be considered by means of lectures, discussion, and guest speakers. PSYCHIATRY

**262. Proseminar in Health Psychology.** (4) § Sp. Prerequisite: Consent of instructor. Lecture 4 hours. Offered in alternate years. Not offered 1989-90.

**Cohen**

Examination of empirical research and theoretical perspectives in certain problem areas within the health system where psychological knowledge is of direct relevance, such as information processing in patient and physician, compliance, coping with the stress of illness. PSYCHIATRY

**263A-B-C. Research Placement & Seminar.** (4-4-4) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Lab 9 hours. Offered in alternate years. Not offered 1989-90.

**N. Adler**

Students will be placed in an ongoing research project in which they will carry out an individual project. They will participate in a concurrent seminar, where research methods and strategies, ethics, and problems of research will be discussed. **265. Stress & Bodily Disease.** (4) § Sp. Prerequisite: Consent of instructor. Seminar 4 hours.

**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 1989-90.

**N. Adler**

Examination of the role that psychological and so-

cial 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 par-

ticipate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

**140.06. Radiation Oncology Clerkship—MZ.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C.

**J. Castro**  
Participation in examination of cancer patients under treatment in the Claire Zellerbach Saroni Tumor Institute at MZ. Students participate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

**150.01. Research Selective.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C.

**Dewey**  
Individual research in radiation oncology by arrangement with the chairperson of the department. Students work under close supervision of a member of the staff. RADIOLOGY

**403. Radiation Oncology Grand Rounds.** (1) Su, F, W, Sp. Lecture 1 hour.

**T. Phillips**  
Rounds include presentation of problem cases with discussions of diagnosis and treatment as well as biologic implications. Frequent guest lectures are used to cover important aspects of oncology. RADIOLOGY

**404. Cancer Specialty Seminar.** (3) Su, F, W, Sp. Seminar 3 hours.

**T. Phillips**  
Seminars include discussions of the diagnosis, treatment, and results of specialty oncology problems, including head and neck, gynecologic, otolaryngologic, pediatric, dermatologic, lymphomatous, and general malignancies. RADIOLOGY

**415. Radiobiology Seminar.** (1) F, W, Sp. Seminar 1 hour.

**Dewey**  
Study of principles of radiobiology and their application to radiotherapy. Seminars deal in depth with textbooks, selected readings, and prepared seminars leading to understanding of mechanisms of action of radiation in clinical radiotherapy. Oriented to radiotherapy fellows and residents. RADIOLOGY

**423. Therapeutic Treatment Planning.** (10) Su, F, W, Sp. Prerequisite: Residents assigned to therapeutic radiology. One-month workshop course.

**V. Smith**  
A workshop course to provide residents in therapeutic radiology with the elements of treatment planning and dose calculations. RADIOLOGY

**424. Therapeutic Radiology Physics.** (1) F, W, Sp. Prerequisite: Residents assigned to therapeutic radiology. Lecture-seminar 1 hour.

**Ling**  
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) F, W, Sp. Prerequisite: Anatomy 100 and 103, Medicine 130, Pathology 102, and Psychiatry 130; concurrent enrollment in Medicine 131A-B-C. Lecture 1 hour. Lab 1 hour.

**S. Ross**  
Course provides instruction in basic aspects of 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**  
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, fluoroscopy, chest, bone, and interventional radiography, with concentration on any one of these areas. Clinical or research projects may be undertaken with permission of the instructor. RADIOLOGY

**150.01. Research in Radiology.** (1-1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and approval of instructor. For students seriously interested in a career in academic medicine.

**Carlsson, S. Ross**  
A research project under the direction of a member of the faculty. RADIOLOGY

**170.01. Clinical Application of Anatomy & Pathology.** (1-2) F, W, Sp. First-year standing. Lecture 1-2 hours.

**S. Ross, Colangelo**  
Course demonstrates anatomy in the living through the use of radiographs. Objectives are to show the usefulness of knowing anatomy, to begin acquiring a medical vocabulary, the elements of clinical thinking, and useful habits in learning. RADIOLOGY

**170.02. Clinical Application of Anatomy & Pathology.** (1-3) F, W, Sp. Second-year standing. Lecture 1-3 hours.

**S. Ross, Colangelo**  
A lecture course limited to small groups, with active participation on selected aspects of pathological anatomy and its usefulness in understanding disease, its origins, development, and clinical manifestations. RADIOLOGY

**170.08. Nuclear Medicine Physics & Imaging.** (2,2) F, W. Prerequisite: B.A. or M.D. degree. Given concurrently with Radiology 170.09. Lecture 2 hours a week for 6 weeks. Independent study 10 hours.

**Perez-Mendez**  
Introduction to the physics of radioactivity, nuclear instrumentation and gamma-ray imaging techniques. RADIOLOGY

**170.09. Introduction to Nuclear Medicine.** (3.5) Su, F, W, Sp. Prerequisite: Given concurrently with Radiology 170.08. Lecture 5 hours a week for 6 weeks. Independent study 10 hours.

**D. Price**  
Introduction to basic nuclear medicine diagnostic procedures, both in vivo and in vitro, and therapy with radiopharmaceuticals. RADIOLOGY

**170.10. Radiologic Aspects of Surgery.** (1) Su, F, W, Sp. Prerequisite: Third-year surgery. Seminar 1 hour.

**Minagi, Laing**  
Weekly seminar covering the radiologic studies of surgical cases emphasizing indications, risks, and information derived from procedures. Active participation in X-ray interpretation is included. RADIOLOGY

**170.11. Emergency Radiology.** (1) Su. Lecture 1 hour.

**Minagi**  
An elective course for fourth-year medical students. Consideration of the role of the radiologist as a consultant in the emergency room. Topics covered include head injuries, fractures, dislocations, chest, abdominal and genito-urinary trauma, and management of contrast reactions. RADIOLOGY

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

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

**220. Radiol Physics for Physicists.** (2) § F, W, Sp. Prerequisite: Bachelor's or higher degree in the physical sciences.  
**Staff**

Seminars provide physicists with an in-depth knowledge of radiological physics. RADIOLOGY

**400. Diagnostic Radiology Seminar.** (1) Su, F, W, Sp. Lecture 1 hour.

**H. Goldberg**

Faculty from radiology and other departments lecture and discuss various diseases of all systems of the body. Residents prepare case histories stressing roentgen findings and correlative surgical and laboratory work, special studies, library and film research. RADIOLOGY

**401. Diagnostic Case Rounds.** (2) Su, F, W, Sp. **Margulis, Gooding**

Films of interesting cases from the daily work are presented and reviewed. Roentgenograms of surgically and pathologically proved cases are correlated with the gross and microscopic pathologic findings. RADIOLOGY

**402. Diagnostic Specialty Seminar.** (3) F, W, Sp. Required for UC residents in diagnostic radiology.

**Margulis**

Seminars require preparation and presentation of roentgen findings on patients under discussion at medical, surgical, pediatric, obstetric and gynecologic departmental conferences and seminars on congenital heart disease, disease of the gastrointestinal tract, and orthopaedics. RADIOLOGY

**403. Emergency Radiology.** (1) F, W. Prerequisite: Required for first-year residents in radiology. Lecture 1 hour.

**Minagi**

Role of radiologist as consultant in the emergency room; head injuries, fractures, dislocations, blunt and penetrating chest trauma, blunt and penetrating abdominal trauma, trauma to genito-urinary system; management of contrast reactions; indications for, and interpretation of special radiologic procedures. RADIOLOGY

**405. Radiological Research.** (1-8) Su, F, W, Sp. Elective.

**Margulis**

Numerous research projects are conducted in the department and facilities are available for new ones. Residents are encouraged to take advantage of these opportunities. RADIOLOGY

**408. Radiology Specialty Sem-SFGH.** (3) Su, F, W, Sp.

**Coulson**

Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. This course includes surgical and medical radiological rounds, consultative tumor board, clinicopathological conferences, and other department grand rounds. RADIOLOGY

**409. Radiology Specialty Seminar-VA.** (3) Su, F, W, Sp. Seminar 3 hours.

**Akin**

Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. These include medical-surgical, clinicopathological, chest, medical X-ray, rheumatology, neurology, and neurological surgery conferences; consultative tumor board; and surgical and orthopaedic grand rounds. RADIOLOGY

**410. Radiat Effects on Genes & Chrom.** (2) W. Prerequisite: Consent of instructor. Lecture 2 hours.

**S. Wolff**

Concepts and mathematics of target theory related to damage of genetic apparatus. Biophysical and biochemical studies on induction of intragenic and intergenic mutations that give insight into the structure of chromosomes and interaction of radiation with biological material. RADIOLOGY

**412. Pathology.** (1) Su, F, W, Sp.

**VA Hinchcliffe**

Course includes review of surgical pathology material and attendance at autopsy rounds. RADIOLOGY

**414. Physics of Diagnostic Radiology.** (2) W, Sp. Lecture 1.5 hours. Lab 2 hours.

**R. Gould**

Course is designed to acquaint residents with the physical principles of diagnostic radiology. Topics include generation and extraction of radiologic information, image conversion, recording methods, and special-purpose equipment. CT and ultrasound physics are discussed. RADIOLOGY

**419. Growth Kinetics-Cells & Tumors.** (2) Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**Cleaver, Patt**

An analysis of cell population growth in tissues, tumors, and cultures. Emphasis is given to radioactive tracers such as thymidine and its biochemistry, and experimental methods for studying cell proliferation in vivo and in vitro. RADIOLOGY

**420. Nuclear Medicine Seminar.** (1) F, W, Sp. **Hattner and Staff**

Rotating assignments of topics for discussion by residents in nuclear medicine training programs in all affiliated hospitals. Critical reviews of available information in limited areas are used to provide a broad review of nuclear medicine for all trainees. RADIOLOGY

**450. Clinical Nuclear Medicine.** (1.5 per week) Su, F, W, Sp.

**Hattner and Staff**

Clinical experience in diagnostic and therapeutic nuclear medicine to satisfy requirements of American Board of Radiology for certification in diagnostic radiology and radiation therapy. RADIOLOGY

**451. Clinical Diagnostic Radiology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 450.

**Margulis**

Residents, under supervision, carry out radiological examination and interpretation of X-rays of patients referred from wards and outpatient clinics. The chief resident has certain administrative duties relative to the resident training program. RADIOLOGY

**452. Clinical Diagnostic Radiology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 450. **VA Akin**

Residents, under supervision, are responsible for the diagnostic activities of the department, including diagnostic consultations and reports, history-taking, and physical examinations. In addition, the chief resident has certain administrative duties relative to the resident training program. RADIOLOGY

**453. Clinical Radiology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 450.

**SFGH Coulson**

Residents are responsible for the diagnostic activities of the department under the direction of staff radiologists including diagnostic consultations and reports, history-taking, and physical examinations. RADIOLOGY

## Removable Prosthodontics

**400. Approaches to Maxofac Prosthodont.** (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 Prosthodont.** (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 intracoronary restoration of teeth. RESTOR DENT

**115A. Intro to Restorative Techniques.** (2) F. Prerequisite: Concurrent enrollment in RD 110A.

Lab 6 hours.

**Braly, Hamaguchi**

Introductory laboratory course in restorative dental techniques. Topics include study of individual tooth form and relationship to adjacent and opposing structures. RESTOR DENT

**115B. Intro to Restorative Techniques.** (3) W. Prerequisite: RD 110A and 115A. Concurrent enrollment in RD 110B. Lab 9 hours.

**Braly, Hamaguchi, Yip**

Continuation of restorative dental laboratory course. Topics include dental and anatomical relationships within the dental arch and between opposing arches; application of principles involved in cavity design and preparation. RESTOR DENT

**115C. Intro to Restorative Techniques.** (3) Sp. Prerequisite: RD 110B and 115B. Concurrent enrollment in RD 110C and 116. Lab 9 hours.

**Braly, Hamaguchi, Yip**

Continuation of restorative dental laboratory course. Topics include basic techniques of fixed prosthodontics and operative cavity design and preparation. RESTOR DENT

**116. Primary Clinical Care.** (2) W, Sp. Prerequisite: RD 110B and 115B. Lecture 1 hour. Clinic 3 hours.

**Braly, Eakle**

Introduction to clinical dentistry: students perform a comprehensive baseline examination of the oral cavity and evaluation of the patient's health status. RESTOR DENT

**120A. Restor Dent Techniques Theory.** (5) F. Prerequisite: RD 110C, 115C, 116C. Concurrent

enrollment in RD 125A. Lecture 5 hours.

**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 125B. Lecture 4 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.** (7) F. Prerequisite: RD 110C, 115C, 116C. Concurrent enrollment in RD 120A. Lab 21 hours.

**Braly and Staff**

Laboratory instruction in the disciplines of fixed prosthodontics, operative dentistry, and removable prosthodontics. Topics include instruction in basic bridge construction, ceramo-metal restorations, cast gold restorations, and partial denture construction. RESTOR DENT

**125B. Restorative Dental Techniques.** (5) W. Prerequisite: RD 120A and 125A. Concurrent enrollment in RD 120B. Lab 15 hours.

**Braly and Staff**

Continuation of laboratory instruction in the disciplines of endodontics, fixed and removable prosthodontics. Techniques include lab procedures involved in root canal therapy, instruction in ceramo-metal restoration, and the fabrication of immediate dentures. RESTOR DENT

**125C. Restorative Dental Techniques.** (5) Sp. Prerequisite: RD 120B and 125B. Concurrent enrollment in RD 120C. Lab 15 hours.

**Braly and Staff**

Continuing laboratory instruction in the disciplines of operative dentistry and removable prosthodontics. Techniques include buildup of teeth, bases, liners, and caries removal; composite/sealants/veneers and the replacement of missing teeth. RESTOR DENT

**126A-B-C. Comprehensive Clinical Care.** (0-4.5) F, W, Sp. Clinic 3 hours.

**Braly, Maxwell**

Thirty hours per quarter of clinic in comprehensive case workup of dental patients. Includes case history, clinical examination, diagnosis, and treatment planning to meet the patient's total dental needs. RESTOR DENT

**130.01. Clin Application of Techniques.** (2) SS. Prerequisite: RD 120C and 125C. Lecture 3 hours/week for 8 weeks.

**Tueller and Staff**

Lectures to introduce students to the clinic. Emphasis is on clinical application of techniques taught in labs. Topics include diagnosis, occlusion, tooth preparation, temporization, and gerodontology. RESTOR DENT

**130.02. Clin Application of Techniques.** (5) F. Prerequisite: RD 130.01. Concurrent enrollment in RD 109. Lecture 5 hours.

**Jendresen, Rosenberg, Tueller, Braly, A. Green, Lacy**

Continuation of RD 130.01, with emphasis on clinical application of restorative techniques. Topics include diagnosis and treatment of pulp disease, tooth preparation and impression materials, diagnosis and treatment of dental emergencies, and treatment planning for the edentulous patient. RESTOR DENT

**130.03. Clin Application of Techniques.** (3) W. Prerequisite: RD 130.02. Concurrent enrollment in RD 109. Lecture 3 hours.

**Jendresen, Tueller, Braly, Finzen**

Continuation of RD 130.02, with emphasis on clinical application of restorative techniques. Topics include temporary restorations and occlusal therapies, rationale of cutting techniques and pulpal response to restorative treatment, and treatment planning for removable partial dentures. RESTOR DENT

**130.04. Clin Application of Techniques.** (4) Sp. Prerequisite: RD 130.03. Concurrent enrollment in RD 139. Lecture 4 hours.

**Jendresen, Rosenberg, Tueller, Braly, Chierici**

Concluding lectures on clinical application of restorative techniques. Topics include understanding why clinical failures occur with selected materials; biological responses to dental materials; pulp protection; pulpal response to treatment; and prosthetic treatment of patients with congenital or acquired malformations. RESTOR DENT

**137. Clinical Endodontics.** (0-0.5) Su, F, W, Sp. Prerequisite: RD 120C, 125C, 126C. Concurrent enrollment in RD 130 lecture series required. Clinic variable.

**Rosenberg**

Clinical instruction and practice in the discipline of prosthodontics. Students are expected to pass a qualifying examination by the end of spring quarter of the third year. RESTOR DENT

**138. Prosthodontics Clinic.** (0-1) Su, F, W, Sp. Prerequisite: RD 120C, 125C, 126C. Concurrent enrollment in RD 130 lecture series required. Clinic variable.

**Holmes**

Clinical instruction and practice in the disciplines of endodontics, fixed prosthodontics, operative and primary care, and removable prosthodontics. Course is graded after student passes qualifying examinations at the end of spring quarter, third year. RESTOR DENT

**139. Clinical Restorative Dentistry.** (0-18) Su, F, W, Sp. Prerequisite: RD 120C, 125C, 126C. Concurrent enrollment in RD 130 lecture series required. Students are required to successfully complete a minimum of 5 units in RD 139. Clinic variable.

**Tueller**

Clinical instruction and practice in oral diagnosis and treatment planning. Students are required to pass a series of qualifying examinations by the end of spring quarter of the third year. RESTOR DENT

**147. Clinical Endodontics.** (0-2) Su, F, W, Sp. Prerequisite: Completion of RD 130.04, 137, 138, 139. Must be taken concurrently with RD 149. Clinic variable.

**Rosenberg**

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.

**Holmes**

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.** (18) Su, F, W, Sp. Prerequisite: Successful completion of RD 130.04, 137, 138, 139. Concurrent enrollment in RD 147, 148. Clinic variable.

**Tueller, Lacy**

Continuation of clinical instruction and practice in oral diagnosis, treatment planning, and restorative dentistry. Students are required to pass a series of qualifying examinations by the end of spring quarter of the fourth year. RESTOR DENT

**170A-B-C-D-E-F-G-H. Prosthodontics Literature Review.** (0-4) A, E: Su, B, F: F, C, G: W, D, H: Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Seminar 1-4 hours. Two-year course.

**T. Curtis, Radke**

Current and past prosthodontic literature will be

studied and discussed. Students will learn to distinguish between appropriate, controversial, and inappropriate prosthodontics literature. RESTOR DENT

**171A-B-C-D-E-F-G-H. Prosthodontic Treatment Planning.** (0-2) A, E: Su, B, F: F, C, G: W, D, H: Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Lecture 1 hour. Seminar 1 hour. Two-year course.

**T. Curtis, Radke**

A treatment plan will be discussed and developed for each patient after all diagnostic aids have been gathered. Students will be responsible for establishing an initial treatment plan prior to the seminar and for justifying it before the group. RESTOR DENT

**172A-B-C-D-E-F-G-H. Prosthodontic Procedures.** (0-2) A, E: Su, B, F: F, C, G: W, D, H: Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Lecture 1 hour. Seminar 1 hour. Two-year course.

**T. Curtis, Radke**

Staff and program consultants will present lectures on various aspects of fixed and removable prosthodontics and related subjects on a graduate level. RESTOR DENT

**174. Nutrition.** (1) SS1. Prerequisite: D.D.S., D.M.D. or equivalent degree. Enrollment in a postdoctoral specialty program. Seminar 1 hour.

**M. Wilkins**

Course will emphasize the dietary requirements for the geriatric prosthodontic patient. A dietary analysis of the student and a prosthetic patient currently under treatment will be required. RESTOR DENT

**175B-C. Biomaterials Science.** (2-2) W, Sp. Prerequisite: D.D.S. degree. Open to dental residents, postdoctoral and postgraduate students only. Seminar 2 hours.

**Jendresen**

Course covers biomaterials science as applied to clinical restorative dentistry with emphasis on restorative material selection and use, based on acceptable physical and biological properties. Current research and new restorative materials will be discussed. RESTOR DENT

**176. Craniofacial Pain-TMJ Seminar.** (0-8) Su, F, W, Sp. Prerequisite: Enrolled postdoctoral specialty students. Fourth-year dental students may take this course as an elective with permission of the instructor. Seminar 2 hours.

**McNeill**

Allows residents to finish their training with a basic ability to recognize, diagnose, and treat craniofacial pain and TMJ dysfunction in an interdisciplinary environment. The treatment team will include medical and dental specialties. RESTOR DENT

**179.01A-B-C-D-E-F-G-H. Removable Prosthodontics Clinic.** (0-5) A, E: Su, B, F: F, C, G:

**W. D, H:** Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Clinic 15 hours. Two-year course.

**T. Curtis**

Various types of removable prostheses will be fabricated using different techniques and treatment philosophies. RESTOR DENT

**179.02A-B-C-D-E-F-G-H. Fixed Prosthodontics Clinic.** (0-5) **A, E:** Su. **B, F:** F. **C, G:** W. **D, H:** Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Clinic 0-15 hours. Two-year course.

**Noble**

Fixed prosthodontics clinical procedures will be performed using a variety of treatment philosophies and articulating instruments. RESTOR DENT

**179.03. Temporomandibular Joint Clinic.** (0-4) Su, F, W, Sp. Prerequisite: D.D.S. degree. With consent of instructor, fourth-year students may take this course as an elective. Clinic 3 hours per week.

**McNeill**

Participation in the Temporomandibular Joint Clinic applying knowledge of history-taking and differential diagnosis and utilizing such diagnostic techniques. RESTOR DENT

**180.04. Advanced Operative Theory.** (1) F. Prerequisite: Completion of RD 130.04. Lecture 1 hour.

**Birtcil**

Lectures and televised demonstrations covering quadrant dentistry, washed field technics, complex restorations, analysis of related research, and clinical applications of the various restorative procedures. RESTOR DENT

**180.05. Prosthodontic Procedures.** (1) W, Sp. Lecture 1 hour.

**Brigante**

An elective course offering instruction in procedures and materials other than those normally used in the clinic. RESTOR DENT

**181.02. Advanced Endodontics Concepts.** (1) W. Lecture 1 hour.

**Rosenberg**

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

**182.04. Advanced Operative Theory.** (1) Sp. Prerequisite: RD 181.04. Lecture 1 hour.

**Birtcil**

Continuation of Restorative Dentistry 181.04. Organization of the material is planned in relationship to progress of students enrolling in the 180 series. RESTOR DENT

**182.05. Advanced Partial Denture Design.** (1) Sp. Prerequisite: Completion of three removable partial dentures. Lecture 1 hour. Seminar 1 hour.

**J. Holmes**

Seminar to discuss and determine the reasons clinical cases failed and to recommend new treatment or designs for removable partial dentures. Emphasis will be on understanding design principles of routine situations, but unusual cases may be used to depict specific problems. RESTOR DENT

**183.05. Advanced Complete Prosthodontics.** (1) F. Prerequisite: Fourth-year standing. Seminar 1 hour.

**Finzen**

Seminar to discuss concepts of complete denture fabrication and maintenance reviewing the rationale for procedures normally used in the clinic, and the selection of the appropriate alternate procedures where indicated. RESTOR DENT

**186.04. Restorative Materials Procedures.** (1) F, W, Sp. Prerequisite: Open to fourth-year students with the approval of the chairperson of the division. Enrollment limited. Clinic 3 hours.

**Birtcil**

Techniques and procedures for Class III restorations, using the conservative approach, as well as wedge and matrix. Work will also be done on Class V direct gold restorations. Students learn to use various materials such as fibrous gold, goldent and electroloy. RESTOR DENT

**187.04. Adv Clinical Operative Dentistry.** (0-4) Sp. Clinic 0-12 hours.

**Braly**

Advanced instruction in the field of clinical operative dentistry, utilizing procedures such as quadrants and plastics. RESTOR DENT

**188.02. Advanced Clinical Endodontics.** (0-4) Sp. Prerequisite: Fourth-year standing. Clinic variable.

**Barkhordar**

Advanced instruction in the field of clinical endodontics. RESTOR DENT

**199.01. Biomaterials Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

**Lacy**

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

**199.02. Endodontics Laboratory Project.** (1-5) SS1, F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

**Rosenberg**

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

**199.03. Fixed Pros Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

**Tueller**

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

**199.04. Oper Dent Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

**Braly**

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

**199.05. Remov Pros Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

**Holmes**

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

## Sociology

**130. Sociocultural Variations in Hlth.** (3) § W. Lecture 2 hours. Lab 3 hours.

**R. Staples**

Course addresses sociocultural variations in health with implications for nursing practice. SOC BEH SC

**134. Women, Health, and Healing.** (3) § F, W, Sp. Lecture 2 hours. Lab 3 hours.

**V. Olesen**

Course analyzes sex roles in general and women's roles in particular in health care receipt and delivery, with special emphasis on recruitment problems to health professions, images of women in therapeutic situations, and cross-cultural features of health care. SOC BEH SC

**160. Policy & Politics of Health.** (3) § Sp. Lecture 2 hours. Lab 3 hours.

**C. Harrington**

Course addresses the organization of health care and its politics, with emphasis on both United States and international health issues. SOC BEH SC

**198. Supervised Study.** (1-5) § F, W, Sp. Staff

Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. SOC BEH SC

**203. Social Psychology of Chronic Illness.** (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**G. Becker**

Course provides discussion of problems faced by chronically ill persons and their families including crisis management, handling symptoms, managing regimens, social isolation, phases of disease, temporal difficulties, normalization, dying, as well as policy issues confronting health care personnel and the general public. SOC BEH SC

**205. Health Professions, Occupations, and Work.** (3) § W. Lecture 2 hours. Lab 3 hours.

**C. Harrington**

Course examines the nature of occupations and professions; their constellation in hospitals and clinics, the medical division of labor, specialties and specialization, professional and occupational ideologies, the sociology of work relationships, careers. SOC BEH SC

**207. Sociology of Health & Medicine.** (3) § Sp. Seminar 2 hours. Lab 3 hours.

**C. Estes**

Course introduces the student to classical perspectives in medical sociology and development of a critical perspective in the field to serve as a foundation for independent and advanced study in medical sociology. SOC BEH SC

**208. Social Psychol of Hlth & Illness.** (3) § F. Prerequisite: Required for graduate students in sociology. Lecture 2 hours. Lab 3 hours.

**V. Olesen**

Course covers the relationship of social class, ethnic identification, group membership, family structure, occupation, and life style to health and illness, and therapeutic interaction of laymen and health professionals. SOC BEH SC

**209. Sociology of Power.** (2-4) § F, W, Sp. Prerequisite: A graduate-level sociology theory course. Restrictions: Doctoral students only. Lecture 2-4 hours.

**C. Estes**

Course surveys the classical and contemporary sociological issues in theoretical and empirical work on power; explores underlying assumptions and paradigms emerging and reflecting a sociopolitical milieu. The student will analyze literature and debates on power structure research and theory. SOC BEH SC

**212A. Sociological Theory.** (3) § W. Lecture 2 hours. Field work 3 hours.

**C. Estes**

Course examines and evaluates classical and recent contributions to sociological theory. The main objective is the generation of a critical capacity with

respect to received theory in both its formal and substantive varieties. SOC BEH SC

**212B. Sociological Theory.** (3) § Sp. Lecture 2 hours. Field work 3 hours. Required for graduate students in Sociology.

**A. Clarke**

Course consists of readings and discussions on interactionist theory in sociology, with emphasis on the origins and development of the Chicago School of Sociology, as well as an examination of the link between philosophy of pragmatism and interactionism. SOC BEH SC

**214A. Field Research.** (3) § F, Sp. Prerequisite: Doctoral level. Lecture 2 hours. Lab 3 hours.

**L. Schatzman, V. Olesen**

Course offers sociological perspectives on the dimensions and properties of research in natural social settings. Focus upon developing skills in negotiating entree, in watching, listening, and in recording of data; emphasis upon developing conceptual schemata in preparation for analysis. SOC BEH SC

**214B. Qualitative Analysis.** (3) § W. Prerequisite: Doctoral level; Sociology 214A. Lecture 2 hours. Lab 3 hours.

**V. Olesen, L. Schatzman**

Course examines modes of analysis applicable to qualitative data; emphasis on dimensions and properties exhibited in student-presented data. SOC BEH SC

**214C. Qualitative Analysis.** (3) § F, W, Sp. Prerequisite: Doctoral level; Sociology 214A and 214B. Lecture 2 hours. Lab 3 hours.

**Staff**

Course provides qualitative analysis and the development of substantive and formal sociological theory. Emphasis is on student-presented data and their conceptualization. SOC BEH SC

**215. Organizational Research.** (2-4) § F, W, Sp. Prerequisite: Sociology 216 encouraged but not required and consent of instructor. Lab 3-9 hours. Conference 1 hour.

**E. Lurie**

Course will place students in organizations to provide opportunities to conduct research; apply and develop organizational theory; develop applied sociological, practical, and administrative skills and experience for students; and make sociologists attractive and salient to organizations outside academic settings. SOC BEH SC

**216. Comp Orgs: National & Intl Perspec.** (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**Staff**

Course is a comparative review of contributions to the sociology of formal organizations of health care. A variety of organizational forms will be considered with special emphasis on national and international health care comparisons. SOC BEH SC

**217. Future of the Family Seminar.** (3) § F, W, Sp. Lecture 2 hours. Lab 3 hours.

**R. Staples**

Course explores changing dating, sexual, sex-role, marital, and familial patterns in the United States. Discussion of futuristic models of family life as affected by sociocultural forces. Special emphasis given to changing sex-role behavior as affecting male-female relationships. SOC BEH SC

**218. Adv Topics in the Socio-Analysis of Aging.** (2-4) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours.

**C. Estes**

Course is designed for doctoral students investigating advanced research issues preparatory to qualifying examinations. Topics to be analyzed will vary each year, but will be focused upon a specific area. Laboratory assignments are for research activities on special topics in the area of aging. SOC BEH SC

**219. Social Policy & Aging.** (2-4) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours.

**C. Estes**

Course will provide a critical analysis of major social, economic and political issues of growing old in America; will examine social policy in the public and private sectors including health, income, and social services; and consider prospects for social change and political movements. SOC BEH SC

**220. Sociology Seminar.** (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Required for graduate students in Sociology. Seminar 2 hours. Lab 0-6 hours.

**C. Estes**

Doctoral students discuss methods and problems in current research. Course may be repeated for credit. SOC BEH SC

**221A-B-C. Qualifying Examinations.** (4-4-4) § A: F, W, Sp. B: F, W, Sp. C: F, W, Sp. Prerequisite: Preparation for qualifying examinations. Open to graduate students in Sociology only.

**Staff**

Qualifying examinations for graduate students in sociology are given in three areas: sociological theory, medical sociology, and special interest. The course will provide for preparation in each area. SOC BEH SC

**223. Perspectives on Public Policy.** (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**A. Benjamin**

Course offers systematic overview of health policy in American government—its scope, dynamics, and conceptual and practical dilemmas. Students will become acquainted with major issues involved in formulating, financing, implementing, and assessing patterns of decision (i.e., policy) established by government. SOC BEH SC

**225. Policy & Hlth Care Institutions.** (3) § F, W, Sp. Prerequisite: Nursing 287A 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.

**V. Olesen**

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.

**J. Wood Curry**

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.

**R. Newcomer**

Course examines the health status of the aged in the United States related to biological, behavioral, sociocultural, and environmental factors. Social, cultural, and economic factors affecting organization, financing, and delivery of health care to the aging population will be examined. SOC BEH SC

**235. Health Factors in Marriage & Family Behavior.** (3) § F, W, Sp. Prerequisite: Consent of instructor. Graduate standing. Lecture 2 hours. Lab 3 hours.

**R. Staples**

Course will explore how marital and family behavior generates mental and physical health problems. Topics are family violence, child abuse, sexually transmitted diseases, suicide, psychological problems, and the relationship of marital status to morbidity and mortality. SOC BEH SC

**236. Race/Class Factors in Hlth Care Delivery.** (3) § W. Prerequisite: Consent of instructor. Graduate standing. Lecture 2 hours. Lab 3 hours.

**R. Staples**

Course examines racial and class membership impact on access to health care services, variations in the quality of those services, and how professional and subprofessional roles in the health care system are organized along racial and class lines. SOC BEH SC

**237. History of Sociological Thought.** (3) § F, W. Lecture 2 hours. Field work 3 hours.

**P. Fox**

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 0-3 hours.

**V. Olesen**

Course offers students opportunity to work with both theoretical and research questions on the subject of women's participation in health and healing systems. Critical questions on appropriate method, relationship to theory, and articulation of questions will be considered. SOC BEH SC

**239. Evaluation Research Methods.** (3) § F, W, Sp. Prerequisite: Sociology 214A and 214B. Non-doctoral students may enroll upon approval of instructor. Lecture 2 hours. Lab 3 hours.

**R. Newcomer, L. Schatzman**

Course analyzes field work as evaluation method, as applied to health care settings and programs, contrasting this approach with quantitative methods predicated on analysis of outcomes. Conduct of such evaluative research, and relationship with audiences, such as policymakers, analyzed. SOC BEH SC

**240. Older Women and Their Health.** (2-4) § F. Seminar 2 hours. Optional project for additional units.

**V. Olesen, J. Zones**

Course analyzes postmenopausal women's changing social roles and the interaction of actual and perceived role with health. Topics include demographic issues, economic trends, individual social and health status, policy implications for individuals and society. SOC BEH SC

**241. Women, Work & Health.** (2-4) § F. Seminar 2 hours. Optional project for additional units.

**V. Olesen**

How sociocultural systems place women in work roles, the implications for their health, their part in illness prevention and care of the sick. Analyzes "hidden careers," work and health in developing societies, relationship between work and 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 construc-

tions of gender and women's careers in science. SOC BEH SC

**247. Policy Issues & Political Processes.** (3) § W, Sp. Lecture 2 hours. Lab 3 hours.

**C. Harrington**

Seminar focuses on issues and trends in legislation and politics of aging and long-term care. Discussions will cover professional roles and development of strategies to influence legislative and political processes that affect the planning and delivery of care. SOC BEH SC

**248. Group Independent Study.** (1-8) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-8 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.

**V. Olesen, 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. Women's Health: Life Cycle.** (2-4) § W. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours.

**V. Olesen**

Issues in women's reproduction and sexuality, occupational health, and mental health over the life cycle examined from epidemiological, developmental, interactionist, and political economy perspectives.

Emphasis on applicability to policy, clinical practice, program evaluation and scientific theory building. 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. Environmental Sociology.** (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours.

**V. Olesen**

Sociological analysis of health-related issues emergent from considerations of housing, occupation, urban contexts. Review of concepts of territoriality, privacy, and ecology. Perspectives on social construction of environmental and energy issues and policies. SOC BEH SC

**256. Introduction to Survey Research.** (3) § Sp.

Prerequisite: Biostatistics 183 and 185A-B or equivalent. Restriction: Doctoral level; non-doctoral students may enroll upon consent of instructor. Lecture 2 hours. Lab 3 hours.

**R. Newcomer**

Course introduces sample theory, sample development, and methods of survey research. Course provides rudimentary skills for those conducting their own research and large field surveys. SOC BEH SC

**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

**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. Offered 1989-90.

**Merzenich and 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 1989-90.

**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 1989-90.

**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. Not offered 1989-90.

**Turner**

This is the final course in a 2-year sequence (201, 202, 203, 205). The objective of the core curriculum is to provide students with a fundamental knowledge of the speech and hearing sciences. This course covers basic language science with emphasis on the cortical processing of language. OTOLARYN

**210. Fundmntl of Auditory Neurobiol.** (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours.

**Schreiner**

Reading and critical discussion of selected original research papers on the anatomy and physiology of the auditory system. Each level of the auditory nervous system from the periphery to the cortex will be considered in turn. OTOLARYN

**211. Sound and Sound Analysis.** (4) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 2 hours. Offered in alternate years. Offered 1989-90.

**Staff**

Review of the physics of sound as it applies to study of speech and hearing. Theoretical and practical approaches to the analysis of signals and the fundamentals of system analysis. Practical application of acoustic research equipment. OTOLARYN

**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 re-

search, 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. Surgery Core Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110.

**Pellegrini**

Core general clerkship in surgery. Students assigned to wards and clinics at UC, SFGH, VA, and C. The application of basic sciences, pathology, radiology, and psychiatry to surgery is emphasized in ward rounds and seminars. SURGERY

**111. Advanced Surgery Core Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110.

**Reilly**

Students are senior clerks on wards, in operating rooms at UC, SFGH, and VA. Rounds, seminars focus on physiological approach to surgery. Clinical clerkships in surgical specialties may be taken with prior approval of specialty department and Department of Surgery. SURGERY

**140.01. Advanced Surgery Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111.

**F. Lewis**

Senior clinical clerks participate in clinic, ward, and operating room with direct involvement in postoperative and preoperative care at UC, SFGH, VA, C, RDMC, VMC and K. SURGERY

**140.02. Off-Campus Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111.

**Debas**

Clinical clerkship in approved hospitals in other universities by special arrangement and approval of the chairperson of the department and the dean. SURGERY

**140.03. General Surgery-PMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

**Russell**

Students serve as acting interns on general surgical service; participate in preoperative assessment, 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,





tions of general surgical problems and the development of technical and laboratory methods to be applied in surgery. SURGERY

**490. Clinical Surgery—SFGH.** (1.5 per week) Su, F, W, Sp.

**Lewis**

Interns rotate through the general surgical service, including the intensive care unit. Under the direction of the attending staff, experience is provided in vascular, chest, hand and plastic surgery, and surgery of maxillofacial injuries. SURGERY

**495. Clinical Surgery.** (1.5 per week) Su, F, W, Sp.

**Debas**

Interns, under supervision, are responsible for the preparation of case records, laboratory work, preoperative patient preparation, assistance at operations, postoperative care, and attendance at follow-up clinic. SURGERY

## Teaching Methodology

**170. Educational Technology.** (1) F, W, Sp. Prerequisite: D.D.S. degree. Seminar 2 hours.

**Staff**

Course provides resource information in the form of a systematic overview of educational technology. This information is introduced in conjunction with the development by the individual student of an actual microcourse, teaching a single skill. GEN DENT

**176. Practice Teaching.** (1) F, W, Sp. Prerequisite: D.D.S. degree. Clinic 3 hours.

**Staff**

Practical teaching experience in selected courses under the supervision of members of the staff. GEN DENT

**186.01A-B-C. Practice Teaching.** (0-3, 0-3, 0-3) F, W, Sp. Lab 3 hours.

**Staff**

Practical teaching experience in selected courses under the supervision of senior members of the staff. GEN DENT

## Urology

**Core Clerkship—Surgery 110** includes clinical clerkships in the outpatient clinics and hospitals, assistance at operations, and participation in residents' seminars.

**140.01. Advanced Urology Clerkship—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

**Tanagho**

Students work as interns on the Urology Service at UC. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

**140.02. Off-Campus Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

**Tanagho**

Clinical clerkship in off-campus hospitals approved by the chairperson of the department and the dean. UROLOGY

**140.03. Advanced Urology Clerkship—VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

**R. D. Williams**

Students work as interns on the Urology Service at VA. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

**140.04. Advanced Urology Clerkship—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

**McAninch**

Students work as interns on the Urology Service at SFGH. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

**170.01. Fundamentals of Urology.** (2) F, W, Sp. Prerequisite: Consent of instructor.

**Tanagho and Staff**

Seminar and library research. UROLOGY

**199. Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor.

**Tanagho and Staff**

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

**400. Urology Seminar.** (1.5) Su, F, W, Sp.

**Tanagho**

Seminar includes study of the basic sciences and urologic roentgenology with members of the attending staff. UROLOGY

**401. Experimental Laboratory.** (2) Su, F, W, Sp.

**Tanagho**

Course includes experimental investigation in urologic problems. UROLOGY

**402. Urologic Clinical Seminar.** (2) Su, F, W, Sp.

**Tanagho**

Seminar includes discussion of diagnosis and treatment of patients in the urology wards with the attending staff. UROLOGY

**403. General Urologic Staff Conf.** (.5) Su, F, W, Sp.

**Tanagho**

Conference includes presentation and discussion of urologic problems by the house staff and faculty. UROLOGY

**450. Clinical Urology.** (1.5 per week) Su, F, W, Sp.

**UC Tanagho, SFGH McAninch, VA R.D. Williams**

First-year residents care for patients in the wards

and outpatient clinics. Second- and third-year residents, under supervision, perform instrumental examinations on clinic patients. Senior residents, under supervision, perform instrumental and surgical procedures and have administrative, clinical, and teaching responsibilities. UROLOGY

**490. Clinical Urology—SFGH.** (1.5 per week) Su, F, W, Sp.

**McAninch**

Interns rotate through urological wards. Under the direction of the attending staff they are responsible for the care of patients, including history-taking, physical examination, laboratory tests, and consultation. UROLOGY

