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*University of California San Francisco*

1993 • 1994 GENERAL CATALOG • *University of California San Francisco*

1993 • 1994

GENERAL

CATALOG

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## Courses

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

**Course Description.** Course information is arranged in three paragraphs. The first paragraph includes course number, title (in parentheses), session offered, prerequisite, format and breakdown of hours per week. The second paragraph names the instructor(s) in charge. The third describes the course content, followed by department or other instructional unit.

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

## Departments and Other Instructional Units

### ANATOMY

Department of Anatomy, School of Medicine

### ANESTHESIA

Department of Anesthesia, School of Medicine

### BIOCHEM

Department of Biochemistry and Biophysics, School of Medicine

### CL PHARM

Division of Clinical Pharmacy, School of Pharmacy

### DENT PUB HLTH

Department of Dental Public Health and Hygiene, School of Dentistry

### DERMATOL

Department of Dermatology, School of Medicine

### EPID & BIostat

Department of Epidemiology and Biostatistics, School of Medicine

### FAM CM MED

Division of Family and Community Medicine, School of Medicine

### FAM HLTH

Department of Family Health Care Nursing, School of Nursing

### GR DEVEL

Department of Growth and Development, School of Dentistry

### HIST HL SC

Department of History of Health Sciences, School of Medicine

### LAB MED

Department of Laboratory Medicine, School of Medicine

### MEDICINE

Department of Medicine, School of Medicine

### MENT HLTH COM ADM

Department of Mental Health, Community, and Administrative Nursing, School of Nursing

### MICROBIOL

Department of Microbiology and Immunology, School of Medicine

### NEURO SURG

Department of Neurological Surgery, School of Medicine

### NEUROLOGY

Department of Neurology, School of Medicine

### OB GYN R S

Department of Obstetrics, Gynecology and Reproductive Sciences, School of Medicine

### OPHTHALMOL

Department of Ophthalmology, School of Medicine

### ORAL & MAX SURG

Department of Oral and Maxillofacial Surgery, School of Dentistry

### ORTHO SURG

Department of Orthopaedic Surgery, School of Medicine

### OTOLARYN

Department of Otolaryngology, School of Medicine

### PATHOLOGY

Department of Pathology, School of Medicine

### PEDIATRICS

Department of Pediatrics, School of Medicine

### PHARM CHEM

Department of Pharmaceutical Chemistry, School of Pharmacy

### PHARMACOL

Department of Pharmacology, School of Medicine

### PHARMACY

Department of Pharmacy, School of Pharmacy

### 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

### STOMATOL

Department of Stomatology, School of Dentistry

### SURGERY

Department of Surgery, School of Medicine

### UROLOGY

Department of Urology, School of Medicine

## Hospitals

### AB

Alta Bates-Herrick Hospital, Berkeley

### AS

Atascadero State Hospital, Atascadero

### BDC

Buchanan Dental Clinic

### C

California Pacific Medical Center-California campus, San Francisco (formerly Children's Hospital)

### CHMC

Children's Hospital Medical Center of Northern California, Oakland

### CHS

Community Hospital, Santa Rosa

### CM

Ernest V. Cowell Memorial Hospital, Berkeley

### CSP

Center for Special Problems, San Francisco

### DCH

Sutter Davis Hospital, Davis

### DMC

Davies Medical Center, San Francisco

### FCH

Fresno Community Hospital and Medical Center, Fresno

### FR

Kaiser Foundation Hospital-French campus, San Francisco

### GS

Good Samaritan Hospital of Santa Clara Valley, San Jose

### H

Highland General Hospital, Oakland

### K

Kaiser Foundation Hospital, San Francisco

### KH

Kaiser Foundation Hospital, Honolulu

### KHDV

Kaweah Delta District Hospital, Visalia

### KP

Kaiser Foundation Hospital, Oakland

### KSSF

Kaiser Foundation Hospital, South San Francisco

### KWC

Kaiser Foundation Hospital, Walnut Creek

### KS

Kaiser Foundation Hospital, Sacramento

### L

Letterman Army Medical Center, San Francisco

### LBL

Lawrence Berkeley Laboratory, Berkeley

### LH

Laguna Honda Hospital and Rehabilitation Center, San Francisco

### LPPI

Langley Porter Psychiatric Hospitals and Clinics, San Francisco

### MC

Maricopa Medical Center, Phoenix

### MG

Marin General Hospital, Greenbrae

### MHLB

Memorial Medical Center, Long Beach

### MZ

Mount Zion Medical Center of UCSE, San Francisco

### NAT

Natividad Medical Center, Salinas

### NRMC

Naval Hospital, Oakland

### NS

Napa State Hospital, Napa

### OC

O'Connor Hospital, San Jose

### PH

Mills-Peninsula Hospitals, Burlingame

### PMC

California Pacific Medical Center-Pacific campus, San Francisco

### Q

Queen's Medical Center, Honolulu

### RLA

LAC-Rancho Los Amigos Hospital, Downey

### S

Stanford University Hospital, Stanford

### SCC

Santa Clara Valley Medical Center, San Jose

### SDH

Selma District Hospital, Selma

### SFGH

San Francisco General Hospital Medical Center, San Francisco

### SGH

Scenic General Hospital, Modesto

SH  
Shriners Hospital for Crippled Children,  
Honolulu

SJ  
San Joaquin General Hospital, Stockton

SM  
Samuel Merritt Hospital, Oakland

SMC  
Seton Medical Center, Daly City

SRM  
Santa Rosa Memorial Hospital, Santa Rosa

SS  
Sonoma Developmental Center, Eldridge

SSF  
Shriners Hospital for Crippled Children, San  
Francisco

STA  
St. Agnes' Medical Center, Fresno

STF  
St. Francis Memorial Hospital, San Francisco

STL  
St. Luke's Hospital, San Francisco

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

SUM  
Summit Medical Center, Oakland

SVH  
Sierra Vista Hospital, Sacramento

T  
Tripler Army Medical Center, Honolulu

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

UCD  
University of California Davis Medical Center,  
Sacramento

UCI  
University of California Irvine Medical Center,  
Orange

UCLA  
University of California Los Angeles Medical  
Center, Los Angeles

UCSD  
University of California San Diego Medical  
Center, San Diego

VA  
Veterans Affairs Medical Center, San Francisco

VAF  
Veterans Affairs Medical Center, Fresno

VAL  
Veterans Affairs Medical Center, Livermore

VAM  
Veterans Affairs Medical Center, Martinez

VAP  
Veterans Affairs Medical Center, Phoenix

VAPA  
Veterans Affairs Medical Center, Palo Alto

VASD  
Veterans Affairs Medical Center, San Diego

VCF  
Valley Children's Hospital, Fresno

VMC  
Valley Medical Center of Fresno, Fresno

## Anatomy

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

### Sutherland and Staff

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

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

### Sutherland and Staff

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

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

### Sutherland and Staff

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

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

### H. Ralston, Stryker and Staff

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

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

### Garoutte

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

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

### Martin and Staff

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

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

### Sutherland

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

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

### S. Fisher

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

**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. STOMATOL

**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. STOMATOL

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

### H. Patterson

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

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

### S. Fisher

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

**156.02. Head & Neck Anatomy.** (3) F. Prerequisite: Dental Hygiene standing. Lecture 2 hours. Lab 3 hours.

### S. Fisher

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

**170.01. Medical Scholars Program Workshops.** (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Lab 1 hour.

### Sutherland, Ralston

Workshops in anatomy and neuroanatomy, offered concurrent to the first-year course, will present challenging material in the form of problem sets which students will solve in groups. Material, geared toward high-achieving students, will augment basic coursework with clinical and basic science information. ANATOMY

**170.02. Survey of Congenital Defects.** (2) Su or Sp. Prerequisite: Gross anatomy and consent of instructor. Restriction: Open only to students enrolled in Physical Therapy program. Lecture 2 hours. Offered in summer or spring of even-numbered years.

### McKenzie

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

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

### Staff

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

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

### Staff

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

**201. Radiation Effects on Genes & Chromosomes.** (2) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

### S. Wolff

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

**204. Cytogenetic Techniques.** (3) § Sp. Prerequisite: Consent of instructor. Lab 6 hours.

**S. Wolff**

Course covers instruction in various methods of chromosome banding as well as cell cycle analysis by autoradiography. ANATOMY

**207. Neuromuscular Physiology.** (3) § W. Prerequisite: Basic Human Neuroanatomy or consent of instructor. Lecture 3 hours.

**Melnick**

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

**215. Laboratory Rotation.** (4) § F,W, Sp. Prerequisite: Consent of instructor. Lab 12 hours.

**Verb and Staff**

A laboratory rotation course to familiarize new departmental graduate students with various approaches in research. ANATOMY

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

**Staff**

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

**225. Experimental Neuroanatomy.** (4) § SS1, SS2. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 6 hours. Lecture and lab full time for 2 weeks. Offered in alternate years. Offered 1993-94.

**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 1993-94.

**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 1993-94.

**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. Not offered 1993-94.

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

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

**250. Research.** (1-8) § F,W, Sp.

**Staff**

ANATOMY

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

**J. Long and Staff**

Principles of scanning electron microscopy including tissue preparative techniques and applications. Laboratory sessions include participation in preparing and viewing biological specimens. ANATOMY

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

**Staff**

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

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

**Staff**

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

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

**Staff**

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

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

**Asling, Ross**

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

## Anesthesia

**110. Anesthesia Core Clerkship—C, MZ.** (1.5/week) Su, F,W, Sp. Prerequisite: Third-year standing. **Cauldwell**

The course consists of instruction and experience in operating room anesthesia including preoperative and postoperative evaluation and care. Cardiopulmonary resuscitation and care of the unconscious patient are stressed. ANESTHESIA

**111. Advanced Cardiac Life Support** (1) Sp. Prerequisite: Basic cardiac life support (BLS or CPR) and Anesthesia 110. Restriction: 4th year medical students, UCSF Lecture 8 hours. Workshop 12 hours. **Carlisle, Cassorla**

American Heart Association certified training in advanced cardiac life support. Includes recertification in BLS if needed, airway management, invasive monitoring and therapeutic techniques, arrhythmia detection and management, cardiovascular pharmacology, acid-base balance, neonatal and pediatric resuscitation, and defibrillation. ANESTHESIA

**140.01. Advanced Clinical Clerkship—UC.** (1.5 per week) Su, F,W, Sp. Prerequisite: Anesthesia 110. **Cauldwell, Bogetz, Way**

Clinical clerkship in operating room anesthesia. Two weeks in UCSF Surgery Center, focusing on basic anesthesia skills and anesthetic techniques for surgical outpatients of all ages. Two weeks in Moffitt-Long Operating Rooms, emphasizing anesthesia for subspecialty surgery. Scheduled through Anesthesia, ext. 63234. ANESTHESIA

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

**Cauldwell**

Off-campus clinical clerkships in approved hospitals by special arrangement and approval of the Director of Medical Student Education, Department of Anesthesia. ANESTHESIA

**140.03A. Intensive Care Clerkship—SFGH.** (1.5 per week) Su, F,W, Sp. Prerequisite: Anesthesia 110, Medicine 110, and Surgery 110.

**Schlobohm, Luce, Horn, Schapera**

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. Advanced Clerkship in Intensive Care—UC.** (1.5 per week) Su, F,W, Sp. Prerequisite: Anesthesia 110, Medicine 110, Surgery 110 and consent of instructor.

**Cohen**

Diagnostic and therapeutic mechanisms of caring for critically ill patients in adult medical-surgical ICU with emphasis on understanding respiratory, cardiovascular, cerebral and renal pathophysiology in pa-

tients with multisystem failure. Student will learn indications for and use of invasive and noninvasive monitors. ANESTHESIA

**140.06. Pain Management.** (1.5 per week) Su, F, W, Sp. Prerequisite: Anesthesia 110.

**Drasner, McKay**

The student will learn diagnosis and treatment of acute and chronic pain. Rotation includes the Postoperative Pain Service (managing epidural infusions and PCA) and the Multidisciplinary Pain Center (managing all aspects of chronic pain, including diagnostic and therapeutic nerve blocks). ANESTHESIA

**150.01. Research in Anesthesia.** (1.5 per week) Su, F,W, Sp. Prerequisite: Anesthesia 110. Consent of the Dean and Department of Anesthesia.

**Staff**

Students conduct research projects under guidance of faculty member. 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 Life Support.** (0.5) F,W, Sp. Restriction: 1st year medical students only. Lecture 1 hour. Lab 3 hours.

**Cohen, Cahalan, Strong**

Course trains students in professional rescuer life support skills: cardiac compression and ventilation, management of airway obstruction, and assessment of need to initiate or terminate CPR. Successful completion of this course results in AHA or ARC certification in CPR. ANESTHESIA

**178. General Anesthesiology.** (6) Sp. Prerequisite: Interns and residents. Clinic.

**Miller 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 Gregory, Calahan**

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

**470. Molecular Biology Techniques for Anesthesia Research.** (0) Sp. Restriction: For staff, fellows, and research assistants in Department of Anesthesia only. Lab: 16 hours.

**UC Yost, Forsayeth**

Practical beginning laboratory course in molecular biology techniques. Participants will be instructed in current techniques employing plasmids, restriction endonucleases, and microbiological methods for the amplification and manipulation of cloned DNA. ANESTHESIA

## Animal Science

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

**Hoener**

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

## Anthropology

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

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

**Staff**

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

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

**Barker, Justice and Staff**

Seminar in the history and theory of social anthropology as applied to problems of health and illness. Major

concepts and problems will be illustrated through critical review of selected research literature. EPID & BIOSTAT

**206A-B. Intro to Biocultural Anthropology.** (3-4, 3-4) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours, plus 3 hours independent study for 4 units. Open only to first-year students in the intercampus Program in Medical Anthropology. Required for students in the UCSF Ph.D. Program in Medical Anthropology.

**Beyene, Staff**

Survey of the biocultural areas of medical anthropology; anthropology in relationship to biomedicine and human biology. EPID & BIOSTAT

**211A-B-C. Research Training Seminar.** (4, 6-8, 6-8) § F, W, Sp. Prerequisite: Required for and open only to second-year students in the intercampus Ph.D. Program in Medical Anthropology. Lecture 1 hour F, Sp. Seminar 1 hour F, Sp, 2 hours W. Field work 5-7 hours F, 12-18 hours W, Sp.

**Ablon, Mitteness and Staff**

Fundamentals of anthropological research design, methods, and analysis through lectures, readings and field assignments. EPID & BIOSTAT

**212A-B-C. Research Apprenticeship.** (2-5, 2-5, 2-5) § F, W, Sp. Prerequisite: Consent of instructor. Lab 6-15 hours.

**Staff**

Students work with individual faculty members in ongoing research projects. Each student will work on supervised data collection and analytical tasks, and a broader range of research activities, such as problem formulation, grant preparation, sampling, and research design and execution. EPID & BIOSTAT

**215. Life History Methods.** (2-3) § F, W, Sp. Seminar 2-3 hours.

**Ablon**

Review of theoretical and methodological literature on anthropological life histories and the uses of life history materials. Classic life histories and newer works will be read and examined for the methodologies and analyses utilized. EPID & BIOSTAT

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

**Nydegger**

Workshop format, utilizing student research interests. Topics include model building; problem formulation; design of research strategies; evaluation of sampling methods; operationalization of concepts; special problems for qualitative data. Course is preparatory for anthropological statistics. EPID & BIOSTAT

**217. Statistics.** (2) § F, W, Sp. Lecture 2 hours. Lab 3 hours.

**Mitteness**

Introduction to statistical methods for the social sciences: measurement, selected data characteristics, probability theory, statistical models, descriptive statistics, the general linear model, analysis of qualitative

data. Emphasis is on understanding fundamental assumptions and procedures of statistical methods relevant to anthropology. EPID & BIOSTAT

**218. Computer Methods.** (3-4) § Sp. Lecture 3 hours. Lab 0-3 hours.

**Staff**

An introduction to data processing methods most commonly used by medical anthropologists. Topics covered in lecture and laboratory demonstrations include: how a computer works, data form design, keypunching, use of SPSS and HMD program packages and interpretation of computer output. EPID & BIOSTAT

**220. Departmental Seminar.** (0) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.

**Mitteness**

Students, staff, or guest lecturers present selected topics based on their current work. EPID & BIOSTAT

**221A-B. History & Theory of Anthropology.** (3-3) § F, W. Prerequisite: Consent of instructor. Generally limited to students in anthropology. Lecture 3 hours.

**Staff**

A review of the history and development of anthropology and its major theoretical approaches. Lectures, discussion, and readings focus on major issues, trends, personalities, and present concerns in the field. EPID & BIOSTAT

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

**Lane**

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

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

**Ablon**

Examination of social attributes of stigma to such conditions as deafness, alcoholism, obesity, dwarfism, mental and physical disabilities. Self-help groups organized around such conditions will be examined. Guest speakers who have experienced these conditions will contribute to the course. EPID & BIOSTAT

**227. Community Resources for Health & Mental Health.** (3-4) § Sp. Seminar 2-3 hours. Variable field observations.

**Ablon**

This course will survey the range and categories of indigenous community resources for health and mental health. Informal and formal community organizations, therapeutic self-help groups, voluntary associations, and alternative healing modalities will be analyzed for their functions as health and mental health resources. EPID & BIOSTAT

**230. Culture & Personality.** (2-3) § F. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units.

**Kiefer**

Exploration of the relationship between culturally conditioned ways of perceiving, thinking, and communicating, and individual behavior and personality development. Application of cultural and personality findings in medical and nursing settings. EPID & BIOSTAT

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

**Staff**

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

**233. Anthropology of Aging.** (2-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus research project for 3 units.

**Kiefer**

Cross-cultural approaches to roles, statuses, and problems of aged populations. Cultural factors influencing the condition and adaptation of the aged in American society. Topics to be covered include cultural attitudes and values, social relationships, and health problems. EPID & BIOSTAT

**234. Culture & Symbolic Systems.** (2-3) § F. Prerequisite: Anthropology 230A or equivalent, or consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units.

**Staff**

Symbolic expressive behavior is considered from psychocultural life-cycle and psychoanalytic perspectives. Various projective systems are analyzed: psychological tests, dreams, folklore, myths, religious rituals, altered states of consciousness, and healing procedures. EPID & BIOSTAT

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

**Mitteness, Barker**

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

**239. Comparative Family Systems.** (3) § F, W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study.

**Ablon**

Anthropological approaches to family study. Structure and dynamics of varying family systems examined, emphasizing changing family forms and ways family life style and values contribute to modes of coping with stress, illness, and crises. EPID & BIOSTAT

**245. Development in Late Adulthood.** (3) § F  
Lecture 2 hours. Lab 3 hours.

**Kayser-Jones**

Course covers developmental theory and research in aging. Emphasis is on anthropological, sociological, and psychological studies. Current issues in aging with emphasis on implications for health care are discussed. EPID & BIostat

**246. Comparative Medical Systems.** (2-3) § Sp.  
Prerequisite: Consent of instructor. Lecture 2-3 hours.

**Byene**

Popular medicine in the Third World with emphasis on how people use indigenous and biomedical health care resources. Theories of health and disease, social and symbolic dimensions of healing, and relevance of traditional medicine for health maintenance and primary health care. EPID & BIostat

**247. Contemporary American Society.** (3) § F,W  
or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study.

**Ablon**

A review of anthropologically oriented research on basic American values, social organization, and ethnicity. Emphasis is on socio-economic diversity and changing institutions, values, and life styles. EPID & BIostat

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

**Staff**

Groups of two or more collaborate on special problems in anthropology under the direction of faculty. Students may select areas related to their long-term interest and future research program. EPID & BIostat

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

**Staff**

Independent study. EPID & BIostat

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

**Staff**

EPID & BIostat

**251. Social Gerontology.** (2-4) § W or Sp. Pre-  
requisite: Consent of instructor. Lecture 2 hours, plus  
3 or 6 hours independent study for 3 or 4 units.

**Staff**

An overview of the theoretical, empirical, and applied literature on the social processes of aging in this country. Special emphasis on health-related problems and the delivery of services to the elderly. EPID & BIostat

**252. Culture & Health Policy.** (3) § F,W, Sp. Semi-  
nar 3 hours.

**Justice**

Combining the perspectives of anthropology and health policy, the course will examine the effect of culturally linked beliefs and values on utilization of health services and the impact of health policies on medical care in the United States and other countries. EPID & BIostat

**253. Late Life Family.** (3) § F,W, Sp. Prerequisite:  
Consent of instructor. Seminar 3 hours.

**C. Johnson, L. Troll**

A review of research on the late-life family with a critical analysis of the conceptual and methodological issues guiding research. Interpretations of the care-giving and social support literature will be associated with social, cultural, and psychological theories on the family. EPID & BIostat

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

**Lane and Staff**

Individual or small group directed reading and discus-  
sion of epidemiological and medical ecological perspec-  
tives, methods, and findings relevant to the field of  
medical anthropology. EPID & BIostat

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

**Staff**

Independent study. EPID & BIostat

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

**Staff**

For graduate students engaged in writing the disserta-  
tion for the Ph.D. degree. EPID & BIostat

## Biochemistry

**100. Human Metabolism.** (5) W. Prerequisite: Inter-  
departmental Studies 100: Cell and Tissue Biology or  
consent of instructor. Lecture 4 hours. Conference 2  
hours.

**Colby, Musci**

Lectures and conferences in the metabolism of carbohy-  
drates, lipids, amino acids, and nucleotides, with em-  
phasis 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 physi-  
ology 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: Human  
Metabolism.** (4-4) § F,W. Lecture 4 hours.

**Colby**

Lectures in biochemistry, including aspects of cell and  
molecular biology, cell physiology, and human metabo-  
lism. 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 Cancer.** (2) W. Semi-  
nar 2 hours. Project 2 hours. Library research 1 hour.

**Colby**

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

**170.02. Medical Scholars Program Workshops.**

(1) F,W. Prerequisite: First-year standing. Seminar 2  
hours.

**Colby**

Workshops in cell and tissue biology (F) and human  
metabolism (W) will present challenging material in  
the form of weekly problem sets which students will  
solve in groups. The material presented augments re-  
quired coursework with basic science and clinical in-  
formation. BIOCHEM

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

**Colby**

Library research and directed reading under supervi-  
sion 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. Pre-  
requisite: Consent of instructor.

**Staff**

A laboratory research project under direction of a  
member of the faculty with the approval of the chair-  
person of the department. BIOCHEM

**200A. Structure of Macromolecules.** (3) § W. Pre-  
requisite: Calculus, physical chemistry, organic chemis-  
try, and an advanced course in biology. Lecture 3 hours.

**Fletcherick and Staff**

Fundamental principles governing the behavior of, and  
modern techniques for, study of biological macro-  
molecules. Topics covered are: thermodynamics (en-  
tropy, equilibrium, cooperative interactions); kinetics  
and catalysis; structure and function of macromolecules  
(DNA, membranes, proteins) by X-ray and electron  
optics; kinetics and structure of cooperative enzymes  
and systems of biological control. BIOCHEM

**200C. Chromosome Structure & Function.** (1.5)  
§ Sp. Prerequisite: Calculus, physical chemistry, organic  
chemistry, and an advanced course in biology are re-  
commended. Lecture 3 hours for one-half quarter.

**Sedat**

Structure and function of chromosomes in eukaryotes  
will be discussed in depth, beginning with basic under-  
lying experiments and leading to the most recent pro-  
posals for structure. Emphasizes both theoretical and  
experimental approaches to this area of cell and mo-  
lecular 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 alter-  
nate years. Not offered 1993-94.

**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 interac-

tions. Techniques of investigating enzyme mecha-  
nisms and kinetics. BIOCHEM

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

**Yamamoto**

The discovery of principles forming the foundation of  
molecular biology and recent advances in rapidly  
developing areas of the field. Topics covered are: RNA  
transcription, protein translation, DNA replication,  
control mechanisms, and genome structure and orga-  
nization. BIOCHEM

**210. Special Topics.** (0-5) § F,W, Sp. Prerequisite:  
Consent of instructor. Lecture 1-5 hours.

**Staff**

Discussion of selected areas in biochemistry, biophys-  
ics, and biomathematics. BIOCHEM

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

**C. Guthrie**

A laboratory rotation course to familiarize new de-  
partmental graduate students with various approaches  
to biochemical and biophysical research. BIOCHEM

**220. Selected Topics.** (0) § F,W, Sp. Lecture 1 hour.

**Alberts**

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

**221. Selected Topics.** (0-1) § F,W, Sp. Lecture 1  
hour.

**Staff**

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

**242. Protein Crystallography.** (3) § W. Prerequi-  
site: Consent of instructor. Lecture 2 hours. Lab 3  
hours. Offered in alternate years. Not offered 1993-94.

**Stroud**

Principles of X-ray crystallography applicable to pro-  
tein 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.

**T. Kornberg, 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 stu-  
dents under the direction of a member of the staff.  
BIOCHEM

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

**Staff**

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

## Bioengineering

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

**Staff**

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

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

**Langridge**

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

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

**Perez-Mendez**

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

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

**Baumrind, Bhatnagar**

Presentation and discussion of student and faculty research in progress.

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

**Skinner**

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

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

**Hasegawa, Cann, Gould**

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

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

**Hasegawa, Cann, Gould**

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

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

**Hylton, Carlson, Crooks, Ortendahl, Kaufman**

Fundamentals of nuclear magnetic resonance and magnetic resonance imaging; parameterization of image acquisition, image optimization, and display. Emphasis on Fourier imaging methods and instrumentation.

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

**Staff**

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

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

**Staff**

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

**Litt**

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

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

**Staff**

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

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

**Staff**

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

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

**Staff**

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

## Biomathematics

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

**Licko**

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

**190. Biolog Modeling through Diff Eqn.** (3) § F. Prerequisite: Biomathematics 180 or equivalent. Lecture 2 hours. Lab 3 hours.

**Licko**

Development of intuitive notions regarding differential equations. Quantitative and qualitative aspects of differential equations are explored by analog, digital, and analytic techniques. Applications to selected problems in compartmental analysis, enzyme and drug kinetics, and metabolic and biological control dynamics.

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

**Licko**

Review of relevant parts of compartmental and tracer analysis and control theory. Analysis of dynamics of secretory process, distribution, binding and metabolism of hormones, and hormonal control. Differential equations and both analog and digital computers are utilized throughout the course.

## Biophysics

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

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

**Staff**

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

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

**Cooke, Papahadjopoulos, Rothman**

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

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

**Cleaver**

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

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

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

**Morgan, Murnane**

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

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

**Mayall, Chew**

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

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

**Mayall, Chew**

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

**210. Radiation Biophysics.** (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.

**Fike, Morgan**

Interaction of electromagnetic radiation with matter; radiation chemistry; molecular lesions induced by radiation; damage and repair in mammalian cells; interaction of radiation and other agents in mammalian cells and tissue.

**212. Advanced Topics in Radiation Biophysics.** (3) § W. Prerequisite: Biophysics 210 or consent of instructor. Lecture 3 hours.

**Deen**

Current topics in radiation physics, radiation chemistry, and radiation biology. Lecturers will be mainly scientists from the Bay Area with ongoing research programs. Lecturers will assume student familiarity with information covered in Biophysics 210.

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

**Deen**

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

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

**Mendelson**

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



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

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

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

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

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

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

## Biostatistics

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

**171. Intro Linear Algebra.** (3) § W. Prerequisite: One year of college-level mathematics. Lecture 3 hours. Offered in alternate years: Offered 1993-94.

**Beal**  
Course covers linear equations, matrices, vector spaces, linear transformations, determinants, eigenvalues and eigenvectors. Understanding of the contents of theorems will be emphasized. Course provides a general background for linear algebra, linear statistical, or applied linear mathematical methods. EPID & BIOSTAT

**183. Intro Statistical Methods.** (4) § Sp. Lecture 4 hours.

**Glantz, Hoffman**  
Course stresses application of methods, including analysis of variance, simple linear regression, chi-square, and non-parametric. Intended for those who may need to use statistics in their work. EPID & BIOSTAT

**185A. Intro Probability & Statistics.** (4) § F Prerequisite: Working knowledge of algebra. Lecture 3 hours. Lab 2 hours. Offered in alternate years: Not offered 1993-94.

**Chambers**  
Biostatistics 185A and 185B are conceptually oriented introductory courses that prepare the students for 200-level course work. Topics covered include roles of statistical ideas and methods, descriptive statistics, probability, random variables, sampling, estimation, confidence intervals, and hypothesis testing, primarily concerning population means. EPID & BIOSTAT

**185B. Intro Probability & Statistics.** (4) § W. Prerequisite: Biostatistics 185A. Lecture 3 hours. Lab 2 hours. Offered in alternate years: Not offered 1993-94.

**Chambers**  
Continuation of Biostatistics 185A. Course covers one- and two-factor analysis of variance, linear regression analysis with one and two independent variables, elementary nonparametric methods, simple chi-square tests, and other topics. EPID & BIOSTAT

**187. Intro Stat Theory & Practice.** (5) § Sp. Prerequisite: Previous course in introductory statistics. Lecture 4 hours. Lab 2 hours.

**Paul**  
Review of basic statistical theory, sampling, descriptive statistics, and probability. Presentation of confidence intervals, hypothesis testing, one- and two-factor analysis of variance, correlation, simple linear regression, and chi-square tests. A preparation for more advanced work. EPID & BIOSTAT

**191. Clinical Trials & Life Tables.** (3) § Sp. Prerequisite: Biostatistics 183 or equivalent or permission of the instructor. Lecture 3 hours. Offered in alternate years: Not offered 1993-94.

**Hauck, Hilton**  
Will cover the design, operation, and analysis of clinical trials. Specific topics will include: basic trial designs, methods for treatment assignment, sample size determination, methods for the analysis of life tables. EPID & BIOSTAT

**192. Introduction to Linear Models.** (5) § Sp. Prerequisite: Biostatistics 183 or 185 A/B or 187 or equivalent or permission of instructor. Lecture 3 hours. Lab 2 hours.

**Paul**  
This course begins with bivariate correlation and simple linear regression and then moves on to a presentation of multiple regression techniques and the analysis of variance under the general model. The focus is on the choice of technique and interpretation of results rather than on mathematical development of the methods. EPID & BIOSTAT

**193. Categorical Data Analysis.** (3) § W. Prerequisite: Biostatistics 185 A and B, Biostatistics 187 or consent of instructor. Lecture 3 hours.

**Hilton**  
This course focuses on analysis of studies in which summary statistics are rates and proportions. Topics include testing and estimation of measures of association, including methods for matched and stratified data, and sample size and power calculation. Both exact and asymptotic methods are presented. Multivariate methods (log linear and logit models) are introduced. EPID & BIOSTAT

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

**Staff**  
Course will cover topics such as nonparametric methods, regression, and analysis of variance, and analysis of discrete data. EPID & BIOSTAT

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

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

**205. Multi Methods for Discrete Data.** (3) § Sp. Prerequisite: Biostatistics 185A-B or Biostatistics 187 or permission of instructor; familiarity with chi-

square tests and linear regression. Lecture 2 hours. Lab 3 hours. Offered in alternate years: Offered 1993-94.

**Neuhaus, Hauck**  
Course covers multivariate methods for analysis of discrete data. The major topics will be logistic regression and log-linear analysis. Other topics such as models for ordinal data will be covered given sufficient time and interest. Emphasis will be on appropriate use of methods and interpretation of results. EPID & BIOSTAT

**211. Experimental Design.** (3) § W. Prerequisite: Biostatistics 192 or 210A or equivalent. Lecture 2 hours. Lab 3 hours. Offered in alternate years: Not offered 1993-94.

**Hauck**  
This course will cover "classical" experimental designs and their statistical analyses. Designs to be covered will include completely randomized, full and partial factorial, randomized block and crossover designs, nesting and random effects. Statistical methods will include ANOVA and confidence intervals. EPID & BIOSTAT

**213. Multivariate Methods.** (4) § W. Prerequisite: Biostatistics 210A and 210B or equivalent. Lecture 3 hours. Lab 3 hours. Offered in alternate years: Offered 1993-94.

**Segal**  
Course covers classical multivariate methods such as canonical correlation, multivariate analysis of variance, principal components, and discriminant analysis. Emphasis is on application and interpretation of these procedures with real data. EPID & BIOSTAT

**216. Analysis of Repeated Measures.** (4) § Sp. Prerequisite: Biostatistics 192 or 210A and 210B or equivalent. Lecture 3 hours. Lab 3 hours.

**Neuhaus, Segal**  
This course will cover statistical methods for analyzing repeated measurement data. Methods to be presented include the classical ANOVA and MANOVA approaches, likelihood approaches using structured covariance methods and semi-parametric approaches. The course will focus on methods for unbalanced data. EPID & BIOSTAT

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

**Staff**  
Course will cover topics such as statistical methods for failure time data, time series, or repeated measures. EPID & BIOSTAT

**250. Research.** (1-8) § F,W, Sp.

**Staff**  
EPID & BIOSTAT

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

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

## Cell Biology

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

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

**212. Selected Readings in Cell Biology.** (2) § F. Prerequisite: Previous or concurrent enrollment in Cell Biology 245, and consent of instructor.

**Vale**  
Tutorials with a maximum of eight students per class. Each week all students will read one paper and be individually responsible for another paper or group of papers. The papers will address current issues in cell biology. CELL BIOLOGY

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

**Staff**  
A laboratory rotation course to familiarize new departmental graduate students with various approaches to cell biology research. BIOCHEM

**245. Cell and Developmental Biology.** (3) § F. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology are highly desirable. Lecture 3 hours.

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

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

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

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

**Staff**  
BIOCHEM

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

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

## Chemistry

**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, Shafer**

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.

**Kahl**

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.

**Staff**

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.** (4) § F Prerequisite: Consent of instructor. Lecture 4 hours.

**Scanlan**

The study of organic chemical reactions and functional group reactivities with an emphasis on reaction mechanisms. 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

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

**Dill**

Molecular thermodynamics. PHARM CHEM

**261. Chemical Kinetics.** (1) § F Prerequisite: Chemistry 115 and 116 or consent of instructor. Lecture 3 hours for 3.5 weeks.

**Falick, Shetlar**

Chemical Kinetics for graduate students. PHARM CHEM

**262. Advanced Physical Chemistry.** (4) § F Prerequisite: Chemistry 151 or equivalent. Knowledge of differential equations recommended. Lecture 4 hours.

**Kollman**

Quantum mechanics and applications to molecular problems. PHARM CHEM

**263. Biophysical Chemistry.** (3) § Sp. Prerequisite: Chemistry 260 or consent of instructor. Lecture 3 hours.

**Shafer**

Basic principles of biophysical chemistry. Properties of biomolecules and macromolecules, and physical principles of experimental methods including scattering, hydrodynamics, sedimentation, gels, chromatography. PHARM CHEM

**264. Advanced Statistical Mechanics & Molecular Mechanics.** (2) § Sp. Prerequisite: Chemistry 260 or consent of instructor. Lecture 2 hours.

**Dill**

Advanced aspects of statistical mechanics and molecular mechanics; topics covered vary from year to year. PHARM CHEM

## 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

**120. Introduction to Therapeutics.** (3) Sp. Prerequisite: Successful completion of all required first- and

fall and winter second-year courses or consent of instructor. Lecture 3 hours.

**Flaherty**

Introduction to clinical pharmacy and therapeutics, focusing on the interpretation of laboratory and other clinical data regarding hematology, fluid and electrolyte balance, renal and hepatic function. An emphasis is placed on problem solving and integration of previous course work. 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, Wong**

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.

**Aldredge, Salazar**

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, Bolinger**

Continuation of Clinical Pharmacy 131. CL PHARM

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

**Rodondi**

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, Heard**

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) F,W, Sp. Prerequisite: Third-year standing. Concurrent or subsequent enrollment in Clinical Pharmacy 130, 131 or 132.

**Schroeder**

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) F,W, Sp. Prerequisite: Clinical Pharmacy 135A.

**Schroeder**

Continuation of Clinical Pharmacy 135A. CL PHARM

**148A. Inpatient Clinical Clerkship.** (9) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year courses and Clinical Pharmacy 130 series comprehensive examination. Clinic 40 hours per week for 6 weeks.

**Kayser and Staff**

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

**148B. Inpatient Clinical Clerkship.** (9) F,W, Sp. Prerequisite: Clinical Pharmacy 148A. Clinic 40 hours per week for 6 weeks.

**Kayser and Staff**

Continuation of Clinical Pharmacy 148A. CL PHARM

**148.01A. Inpatient Clerkship—UCSD.** (9) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year courses and Clinical Pharmacy 130 series comprehensive examination. Clinic 40 hours per week for 6 weeks.

**Adler and Staff**

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

**148.01B. Inpatient Clerkship—UCSD.** (9) F,W, Sp. Prerequisite: Clinical Pharmacy 148.01A or 148A. Clinic 40 hours per week for 6 weeks.

**Adler and Staff**

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

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

**Shimomura and Staff**

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

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

**Shimomura and Staff**

Continuation of Clinical Pharmacy 148.02A. CL PHARM

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

**Sauer and Staff**

A continuation of Clinical Pharmacy 148.03A. CL PHARM

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

**A. Leeds and Staff**

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

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

**Weibert and Staff**

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

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

**Shimomura and Staff**

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

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

**Shimomura and Staff**

Continuation of Clinical Pharmacy 149.02A. CL PHARM

**149.03A. Ambulatory Externship/Clerkship—UCD.** (6.5) F,W,Sp. Prerequisite: Successful completion of all first-, second- and third-year required courses and the comprehensive examination. Clinic 39 hours per week for 6 weeks.

**Sauer and Staff**

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

**149.03B. Ambulatory Externship/Clerkship—UCD.** (6.5) F,W,Sp. Prerequisite: Clinical Pharmacy 149.03A. Clinic 39 hours per week for 6 weeks.

**Sauer and Staff**

A continuation of Clinical Pharmacy 149.03A. CL PHARM

**155.40. 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

**170.02. Transplant Immunotherapeutics.** (2) Sp. Lecture 2 hours.

**Hebert, Salazar, Aweeka**

This course will introduce students to the specialty area of transplant immunotherapeutics. Students will be able to understand the rejection process and graft vs. host reactions. This course will also review the pharmacological and toxicological effects of immunosuppressant agents. CL PHARM

**170.04. Advanced Compounding Techniques—Walnut Creek.** (1-2) Su, F,W,Sp. Lab 3-6 hours. Prerequisite: Pharmacy 116. Consent of instructor. Enrollment limited to two students.

**Day, Horwitz**

Advanced Compounding Techniques in a community pharmacy (including formulation and packaging) in Walnut Creek. CL PHARM

**170.05. Issues Facing Women in Pharmacy.** (1) Sp. Lecture/seminar (one Saturday and one weekday evening) 10 hours total.

**Kimble, Sauer**

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

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

**Kimble, Kopp, Inaba**

A survey course that addresses the physical and mental effects of drug abuse; intervention and treatment strategies; legal and ethical issues surrounding drug abuse; and substance abuse among health care professionals. CL PHARM

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

**Ignoffo**

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

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

**Kayser**

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

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

**Bolinger**

Students participate in the activities of the Inpatient Pediatric Service. Activities include routine review of patients' charts, monitoring patients' response to drug

therapy; attendance at conferences, seminars and rounds; and participation in selected therapeutic consultations. CL PHARM

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

**Aweeka**

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) Su, F,W,Sp. Prerequisite: grade of C or better in both Clinical Pharmacy 132 and Pharmacology 134 and consent of instructor.

**Guglielmo**

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

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

**Winter**

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

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

**Winter**

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) F,W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter, Bufalini**

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) F,W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

**Winter, Korman and Staff**

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

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

**Kapusnik-Uner**

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

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

**Winter, Olson, Kearney**

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

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

**Winter, Kondo**

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

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

**Dong**

Students participate in the activities of the Family Practice Inpatient Service. Students will be responsible for drug surveillance, drug monitoring, management consultations, and patient education. A minimum of two patient-specific drug consultations is required. CL PHARM

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

**Winter, Raleigh**

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) 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—STE** (1-8) 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

**175.60. 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

**175.64. Haight Heroin Detox Unit Clkshp.** (1-8) 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) F,W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter**

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) F,W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Winter, Katcher, Zola**

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) F,W, Sp. Prerequisite: Clinical Pharmacy 148A or 149. Consent of instructor.

**Winter, Nico, Feldman**

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

**175.80. 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) 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) 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) 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.

**Schroeder**

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

**175.93. Cost Control & Qlty Assurance.** (1-8) 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) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.

**Winter**

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

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

**D. Adler and Staff**

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

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

**D. Adler and Staff**

Students participate in the activities of the Pulmonary Medicine Consult Service, Chest Clinic and Asthma

Clinic associated with the Pulmonary Division at University Hospital. CL PHARM

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

**D. Adler and Staff**

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

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

**D. Adler and Staff**

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

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

**D. Adler and Staff**

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

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

**Weibert and Staff**

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

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

**D. Adler, P. Lee**

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

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

**Weibert and Staff**

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

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

**D. Adler and Staff**

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

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

**Manoguerra and Staff**

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

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

**D. Adler and Staff**

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

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

**P. Anderson**

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

**178.69. Skilled Nurs Facility Consulting**—Sacramento. (1-8) Su, F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.

**Sauer, Menet**

The student will participate in the activities of a clinical pharmacist practicing as a consultant to skilled nursing facilities. Student will learn applicable federal and state regulations in the long-term care setting. Activities include performing drug regimen reviews. CL PHARM

**185.05. Oncology**—UC. (1-8) SS1, SS2, F,W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

**Ignoffo**

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

**185.06. Cardiothoracic Surgery**—UC. (1-8) SS1, SS2, F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Salazar**

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

**185.08. Psychiatric Pharmacy**—LPPI. (1-8) F,W, Sp. Prerequisite: Successful completion of all required first-, second-, and third-year coursework and consent of instructor. Clinic 20-40 hours/week. Clerkship 20-40 hours/week.

**Winter, Ajari**

The clerkship will expose students to pharmacy practice in a psychiatric setting. The students will attend team meetings and seminars and counsel patients about their medications. A written project and a presentation in the field of psychopharmacology are required. CL PHARM

**185.09. Cardiology**—UC. (1-8) SS1, SS2, F,W, Sp. Prerequisite: Completion of all required first-, second-, and third-year coursework and consent of instructor.

**Kayser**

Inpatient rotation in adult cardiology. Patient activities include rounding with the cardiology team and electrophysiology team, monitoring patients on cardiovascular medications, interviewing appropriate patients, and attending conferences and seminars dealing with cardiology. Patients will be presented to the pharmacy preceptor during regularly scheduled rounds. CL PHARM

**185.10. Infectious Diseases**—MZ. (1-8) F,W, Sp. Prerequisite: Completion of all required first-, second-, and third-year coursework and consent of instructor.

**Flaherty**

Students participate in the activities of the Infectious Diseases service, including patient monitoring and attendance at conferences and seminars. Students work under the supervision of the clinical pharmacist and physicians in providing care to all patients who require consultation. CL PHARM

**185.11. General Medicine**—MZ. (1-8) F,W, Sp. Prerequisite: Completion of all required first-, second-, and third-year coursework and consent of instructor.

**Winter, Cashman**

Students learn the basic principles of therapeutics related to the disease states encountered in medicine patients in an inpatient setting. Participation in ward and attending rounds with the Department of Medicine Housestaff. Preceptorship by a clinical pharmacist. CL PHARM

**185.20. Mental Health**—Santa Clara. (1-8) SS1, SS2, F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Winter, Viale, Uyeda**

Students will be involved in both inpatient and outpatient pharmacy settings. They will participate in physician-client interviews, medication monitoring, quality assurance studies, drug therapy consultation, and will also consult at a skilled nursing facility. CL PHARM

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

**Winter, Boro**

The Clinical Pharmacokinetics elective will expose pharmacy students to the application of pharmacokinetics principles in the clinical setting. The students

will provide pharmacokinetics consultations to pharmacy, medical, surgical, and nursing staff. CL PHARM

**185.23. Infectious Disease**—VA. (1-8) SS1, SS2, F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Winter, Maddix**

Activities include monitoring the drug therapy of Infectious Diseases consult patients and serving as a drug information source for the I.D. Service. Students attend and participate in I.D. rounds and attend relevant I.D. and microbiology conferences. CL PHARM

**185.24. Oncology—Bone Marrow Transplant.**

(1-8) F,W, Sp. Prerequisite: Fourth-year standing (CP 130, 131, 132).

**Winter, Warda**

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

**185.25. Infectious Disease**—Brookside Hospital. (1-8) SS1, SS2, F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Winter, Closson**

The fourth-year student will participate in clinical services of the Department of Pharmacy relative to Infectious Disease. The service includes a computer program that links bacteriology reports with current antibiotic therapy. CL PHARM

**185.26. Critical Care Medicine**—SFGH. (1-8) SS1, SS2, Su, F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.

**Winter, Woods, Liu**

Students will be active participants in Medical/Surgical (trauma) ICU patient care. Activities include patient monitoring, rounds, seminars, and conferences and provision of patient-specific drug information and analysis. CL PHARM

**185.27. AIDS/Medicine Consult Service**—SFGH. (1-8) SS1, SS2, Su, F,W, Sp. Prerequisite: Completion of all first-, second- and third-year required coursework and consent of instructor.

**Winter, Lor, Woods**

Students will participate in the AIDS Consult Service including patient monitoring, providing consultation on drug therapy commonly used in treatment of AIDS patients. CL PHARM

**185.30. Geriatrics**—VA Yountville. (4-8) SS1, SS2, Su, F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.

**M. Winter, Carr-Lopez**

Students participate in screening of patients over 70 years of age, biweekly multidisciplinary geriatric team

conferences, attending rounds, and weekly geriatric outpatient clinic. Most common problems relate to polypharmacy, poor nutrition, chronic diseases, depression, syncope, dementia, and pneumonia. CL PHARM

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

**M. Winter, Lee, Louie**

Students will participate in patient monitoring, teaching rounds, conferences, provision of drug information, inservice education, and the clinical management of selected critical care patients. CL PHARM

**185.32. Nutritional Support**—PMC (1-8) F,W, Sp. Prerequisite: Completion of all first-, second- and third-year required coursework and consent of instructor.

**M. Winter, Lee, Whittle**

Student participation in the activities of the nutritional support team includes daily patient monitoring, weekly nutritional support work rounds and daily teaching conferences. Two weeks will be devoted to pediatric TPN as well as some exposure to TPN compounding. CL PHARM

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

**Winter, Lopez, Gee**

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

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

**Winter, Garich, Inouye**

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

**185.35. Psychiatry**—Q. (1-8) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and the comprehensive examination.

**Winter, Garich, Kudo**

The student will be involved in the treatment and care of team-care patients with acute psychiatric illness. Under the supervision of the psychiatric pharmacist, the student will be involved with drug therapy monitoring and will attend daily rounds, meetings and conferences as scheduled. CL PHARM

**185.36. Nutrition Support**—Q. (1-8) F,W, Sp. Prerequisite: Completion of all first-, second- and third-year required coursework and successful completion of the comprehensive examination.

**Winter, Garich, Schanzenbach**

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

**185.37. Pain Management**—Sequoia. (1-8) SS1, SS2, F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Winter, Kudzia, Ferraresi**

Students will participate in the clinical management of pain for ambulatory, hospitalized, and homecare patients. Activities include interviews and drug therapy evaluation, providing drug information to patients and health care professionals, participating in patient care conferences and homecare services. CL PHARM

**185.38. Oncology/Hospice/AIDS**—Sequoia. (1-8) SS1, SS2, F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Winter, Kudzia, Fanning**

Students will participate in clinical programs in the oncology, AIDS, and Hospice services in the Acute and Homecare and Hospice settings. Activities include participation in I.V. admixture of chemotherapy, patient profile reviews, patient teaching, interventions for pain control, and drug information. CL PHARM

**185.60. Adult Day Health Centers**—STM. (1-8) SS1, SS2, F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor. CP 148 &/or 149 preferred. Clinic: 20-40 hours

**Winter, Bookwalter**

Students will learn the interdisciplinary approach to providing health care by participating in and contributing to Intake and Assessment meetings at adult day health centers. Knowledge of special pharmacy services, legal requirements, drug formulary maintenance and drug utilization will be acquired. CL PHARM

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

**Winter**

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

**185.70. Consultant Practice in Extended Care.** (1-8) 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

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

**Winter, Leung**

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

**185.73. Integrated Care Systems.** (1-8) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.

**Winter, Gross**

Students participate in home health care services, including fluid compounding, patient monitoring, multidisciplinary meetings, interaction with nurses in the home setting, patients both pre- and post-discharge and with physicians in their office setting to become familiar with all aspects of home specialty care. CL PHARM

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

**Winter, Alexander**

Under the supervision of a pharmacist, students participate in the compounding, monitoring, and management of parenteral nutrition and medications for home-bound patients. Students also become familiar with the administrative structure and marketing of home health services. CL PHARM

**185.76. Home Care Mgmt of High-Risk Ob Patient.** (1-8) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.

**Winter, Epstein**

Students participate in the activities of Tokos Medical Corporation, including patient monitoring and attendance at medical rounds. They will work under the supervision of the clinical pharmacist in the provision of home care to the high-risk obstetrics patient. CL PHARM

**185.77. Drug Utilization Eval and Target Drug Programs.** (1-8) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.

**Winter, Bergstrom**

Students will design and implement a target drug program which will include the following components: Drug utilization evaluation, written proposal, implementation, followup, and publication. Students will participate in didactic conferences which will discuss formulary management, DUEs, cost containment strategies, and target drug implementation. CL PHARM

**185.78. Drug Usage Eval and Target Drug Programs.** (1-8) F,W, Sp. Prerequisite: Successful

completion of all first-, second- and third-year required coursework and consent of instructor.

**Winter, L. Davis**

Students will design and implement a drug usage evaluation and target drug program which will include the following: Development of a written proposal, presentation to the P&T Committee, and implementation, data collection and followup activities. Students will participate in didactic conferences which will discuss formulary management, Drug Usage Evaluation process, cost containment strategies, and target drug implementation activities. CL PHARM

**185.79. IV Admixture, Automated Unit Dose.** (1-8) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework and consent of instructor.

**Winter, K. Lee, Christa**

Students will participate in a centralized IV Admixture, Automated Unit Dose system of distribution and outpatient pharmacy operation. Activities will include patient profile reviews, drug usage evaluations, drug information research and presentations. Optional computer and management training is available. CL PHARM

**185.86. Pharmacy Quality Assurance/Drug Utilization Evaluation.** (1-8) SS1, SS2, F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Winter, Johnson**

This rotation teaches students the process of how to set up criteria for conducting drug utilization evaluation. Students will have an understanding of the limitations and applicability of data generated from DUEs. Additional experience will be obtained in other quality assurance projects. CL PHARM

**185.95. Drug Use Evaluation—UC-S.** (1-8) SS1, SS2, F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Winter, Krstenansky**

Students will participate in drug usage evaluations, focusing on concurrent monitoring and interventions designed to improve patient outcome. They will also investigate reported adverse drug reactions and assist in the development of educational programs for other health care professionals. 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 antibi-

otic 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**

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) 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**

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**

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

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

**Shimomura, Plon**

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

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

**Shimomura, Zenk**

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

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

**Shimomura, S. Gardner**

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

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

**Shimomura**

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 Friendly Hills Medical Center** (1-8) F,W,Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Shimomura, Kitayama, Levesque**

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

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

**Shimomura, Luna**

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

**187.21. Presbyterian Intercommunity Clin. Pharmacokinetics.** (1-8) 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) F,W,Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework.

**Shimomura, Campbell**

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

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

**Shimomura**

Students participate in providing clinical pharmacy services in an HMO setting. Activities include attending inpatient service rounds, providing clinical services to ambulatory patients and providing inservice education classes and preparing pharmacy and therapeutic committee drug reviews. CL PHARM

**187.80. Drug Information—MHLB.** (1-8) F,W,Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Shimomura, Towne**

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**

Students participate in the activities of an intravenous additive service in a large university teaching hospital. Students will learn about aseptic technique, compati-

bility 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**

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**

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) F,W,Sp. Prerequisite: Successful completion of all first-, second- and third-year coursework and consent of instructor.

**Sauer and Staff**

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

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

**Sauer and Staff**

Students will participate in the activities of the Psychiatric Consult Service. Activities include participation on consult rounds, interviewing patients, and monitoring drug therapy in selected patients. CL PHARM

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

**Sauer and Staff**

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

**188.04. Neonatal Intensive Care—UCD.** (1-8) F,W,Sp. Prerequisite: Successful completion of all first-, second- and third-year coursework, CP 148, 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) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year coursework, Clinical Pharmacy 148 and consent of instructor.

**Sauer and Staff**

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

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

**Sauer and Staff**

The student will work with pharmacists providing clinical and distributive services to critically ill patients in the surgical Intensive Care Unit. Activities will include patient rounds, monitoring drug therapy, and providing drug information and pharmacokinetic consultation. CL PHARM

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

**Sauer, Nishikawa, Sieplar**

This clerkship offers the student an extensive experience in clinical nutrition. Students will assist pharmacists in the management of patients requiring parenteral nutrition and will become an integral member of the Clinical Nutrition Service. CL PHARM

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

**Sauer, Mowers, Dunlap**

The student will participate in the activities of the Drug Use Evaluation/Drug Information Service. Activities include conducting DUEs, preparing formulary evaluations for the Pharmacy and Therapeutics Committee and providing drug information consultation to hospital staff. CL PHARM

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

**Sauer, King**

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

**188.11. Pharmacokinetic Consult Service—UCD.** (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**

Students will participate in the activities of the pharmacokinetics consult service. Activities will include monitoring patients on selected drugs and providing pharmacokinetic consultation to the medical staff. CL PHARM

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

**Sauer and Staff**

Under supervision of the clinical pharmacist, students will become members of the pediatric ward team. They will attend rounds and conferences, monitor patients, evaluate drug therapy, and when appropriate, recommend therapy. Patients vary in age from 2 weeks to 16 years. CL PHARM

**188.20. Oncology—Sutter Memorial Hospital.** (4-8) F,W, Sp. Prerequisite: Fourth-year standing and consent of instructor.

**Sauer, Brown and Staff**

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

**Sauer, Brown and Staff**

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

**188.25. Managed Care, County of Sacramento.** (1-8) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework, and consent of instructor.

**Sauer, Mitsuoka**

Students will become familiar with principles and operation of a managed health care organization. The student will then identify an area of potential cost containment and develop a written policy and procedure to effect a positive clinical and economic solution. CL PHARM

**188.26. Acute Care—CHS.** (1-8) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework, and consent of instructor.

**Sauer, Dallas, Beeman**

Students will concentrate on developing skills in the clinical arena utilizing state-of-the-art technology,

while dealing with a variety of patients in the community hospital setting. Communication with other healthcare disciplines is stressed. CL PHARM

**188.27. State Food & Drug Branch.** (1-8) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year required coursework, and consent of instructor.

**Sauer, Hazlet**

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

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

**Sauer, Fox**

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

**188.31. Skilled Nursing Facility Consultation—Sutter Oaks.** (1-8) Su, F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year coursework and consent of instructor.

**Sauer, DiGiambattista**

The student will participate in the activities of a pharmacist consulting in the long-term care setting. The student will learn federal and state SNF regulations and will conduct a project. CL PHARM

**188.32. Home Infusion Pharmacy—NMC Inc.** (1-8) F,W, Sp. Prerequisite: Successful completion of all first-, second- and third-year coursework and consent of instructor.

**Sauer, 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

**188.33. Community Inpatient Psychiatric Clerkship—SVH.** (1-8) F,W, Sp. Prerequisite: Completion of all first-, second- and third-year required coursework and consent of instructor.

**Sauer, Talaga, Fritz**

A supervised clinical experience in a community-based psychiatric hospital that allows students to develop skills in drug selection and monitoring of response and compliance. Through observation and participation, students will understand the contributions of clinical pharmacists in multi-disciplinary treatment. CL PHARM

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

**Sauer, Enos**

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

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

**Sauer, Lance**

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

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

**Sauer, Lallo, Ingram**

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

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

**Staff**

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

## Comprehensive Dental Care

**110.01 Introduction to Comprehensive Dental Care.** (1) F Lecture 1 hour.

**Hume, Bird, Perry**

Lecture topics include basic concepts of dental health and disease, examination of the oral and facial structures, and working in the dental clinic environment. RESTOR DENT & DENT PUB HLTH

**110.02 Introduction to Comprehensive Dental Care.** (1) W Lecture 1 hour.

**Hume, Bird, Perry**

Lecture topics include dental assisting skills, the dental operative fields, and oral hygiene care at the level of preventive and maintenance care. RESTOR DENT & DENT PUB HLTH

**116 Introduction to Comprehensive Dental Care.** (0-6) F,W, Sp.

**Bird, Hume, Otis**

First-year students will be introduced to comprehensive care through seminars, laboratory and clinical experiences in epidemiology, preventive dentistry,



ergonomics, basic-level dental hygiene and assisting skills, patient counseling and behavioral science techniques, history recording, and clinical oral radiography. DENT PUB HLTH, RESTOR DENT, STOMATOL

#### 126 Intermediate Comprehensive Dental Care.

(6) Pre-F, F, W, Sp. Clinic 3 hours. Rotation 3 hours.

**Richards, Bird, Lee**

This course provides introductory experiences in health assessment, generating differential diagnoses, administering local anesthesia, root-planing teeth, and operating as clinical assistants. Clinical problem-solving sessions coordinate and reinforce important principles. Students learn to provide appropriate treatment to patients with uncomplicated periodontal and restorative needs. STOMATOL, DENT PUB HLTH, RESTOR DENT, ORAL & MAX SURG

#### 156 Introduction to Comprehensive Dental Care.

(0-5) F, W, Sp.

**Perry, Bird, Hume, Otis**

First-year dental hygiene students will be introduced to comprehensive care through seminars, laboratory and clinical experiences in epidemiology, preventive dentistry, ergonomics, basic-level dental hygiene and assisting skills, patient counseling and behavioral science techniques, history recording, and clinical oral radiography. DENT PUB HLTH, RESTOR DENT, STOMATOL

### Craniofacial Anomalies

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

**Vargervik**

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

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

**Vargervik**

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

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

**Vargervik**

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

### Dental Health Education

#### 150. Human Development & Oral Health Education.

(2) W. Lecture 2 hours.

**Rowe**

Introduces the student to basic concepts of preventive oral hygiene, learning and motivation theories, and an overview of human development, including physical/dental, cognitive, emotional, and psychosocial aspects across the lifespan. DENT PUB HLTH

**161ABC. Curriculum Theory & Design.** (0-3) F, W, Sp. Lecture 3 hours.

**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

**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

**198. Supervised Study.** (1-5) F, W, Sp. Prerequisite: Dental Health Education 150A-B, 160A-B, and Biostatistics.

**Walsh**

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.

**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

### Dental Hygiene

**101.01. Leadership & Mgmt in Dental Hyg.** (2) W. Lecture 2 hours.

**M. Walsh**

Analysis of leadership and management theories, and of primary leadership skills related to personal behavior, communication, organization, and self examination. Graduate programs and leadership roles in dental hygiene education, accreditation, public health, and industry are discussed. Course provides opportunity to develop leadership roles appropriate to the student's area of interest. DENT PUB HLTH

**101.02. Leadership & Mgmt in Dental Hyg.** (2) Sp. Lecture 2 hours.

**Hannebrink**

Consideration of dental hygiene leadership roles in the areas of practice management and career planning including goal analysis and nontraditional roles for dental hygienists. Course provides opportunity to implement leadership role in student's area of interest.

**109. Clinical Dental Hygiene.** (1-2) SS. Prerequisite: Dental Hygiene 155A-B, 159, and approval of the chairperson of the division. Clinic 3-6 hours.

**Staff**

Course provides additional clinical dental hygiene experience before entry into the second-year clinic. DENT PUB HLTH

**150.01. Theoretical Foundations for Dental Hyg.** (1) F. Prerequisite: Dental hygiene standing. Lecture 2 hours.

**M. Walsh, Heckman, Poupard**

Course introduces a conceptual framework and theoretical approach as the basis for providing dental hygiene care. Basic concepts of health and illness, human need theory, the scientific method, and leadership theories are considered with emphasis on health promotion and disease prevention for the individual, family, and community. DENT PUB HLTH

**150.02. Assessments in the Dental Hygiene Process.** (1) F. Prerequisite: DH 150.01. Lecture 1 hour.

**Walsh**

This course focuses on assessment, planning, goal setting, implementation, and evaluation of the dental hygiene process. The rationale for data collection, clinical techniques, and documentation procedures are presented. DENT PUB HLTH

**150.03. Dental Hyg Planning, Implementation, & Evaluation.** (2) W. Lecture 2 hours.

**Fannon**

The planning, implementation, and evaluation phases of the dental hygiene care process will be emphasized as a continuation of DH 150.02. The use of assessment data to plan care and set goals for the patient will be presented as well as the implementation of highly technical skills of dental hygiene practice. Evaluation of dental hygiene care is emphasized as an essential component of the dental hygiene process. DENT PUB HLTH

**150.04. Dental Hyg Care for Patients with Special Needs.** (2) Sp. Prerequisite: DH 150.01, 150.02 & 150.03. Lecture 2 hours.

**Rowe**

Course addresses the role of the dental hygienist in preventive dentistry and non-surgical periodontal therapy with emphasis on the objective and principles of comprehensive dental hygiene care for special needs patients. Modification of dental hy-

giene care for special needs patients will include the areas of communication, appointment planning, environmental considerations, home care, and safety precautions in treatment. DENT PUB HLTH

**152. Introduction to Research.** (1) Sp. Prerequisite: To be taken concurrently with Dental Public Health and Hygiene 121. Lecture 1 hour.

**Poupard**

Concomitant with Dental Public Health and Hygiene 121, each student will prepare an annotated bibliography on a research topic of choice. DENT PUB HLTH

#### 153A-B. Clinical Dental Hygiene Seminar.

(1-1) F, W. Prerequisite: DH 153A is prerequisite to DH 153B. Seminar 1 hour.

**Yamamoto**

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

**153C. Clinical Dental Hyg Care Seminar.** (1) Sp. Seminar 1 hour.

**Yamamoto**

Seminar discussions will focus on code of conduct, patient care responsibilities, patient records, financial policies, emergency procedures, infection control protocols, clinic administrative policies/procedures and patient care, and issues related to clinical dental hygiene care. DENT PUB HLTH

**155A. Introduction to Clinical Dental Hygiene Care.** (1) F. Lab 3 hours.

**Yamamoto**

Laboratory and clinical experiences to introduce the student to interpersonal skills, technical skills, and procedures used in the clinical practice of dental hygiene. They include professional conduct, medical history review, and introduction to examination, exploring, probing, and scaling techniques. DENT PUB HLTH

**155B. Intro to Clin Dental Hygiene Care.** (2) W. Prerequisite: DH 155A. Lab 6 hours.

**Yamamoto**

Continuation of lab and clinical experiences in patient assessments with greater emphasis on dental hygiene care, planning, goal setting, case presentation, and implementation of instrumentation techniques for providing prevention-oriented dental hygiene care and non-surgical periodontal therapy. Dental hygiene care evaluation is also emphasized as an essential component of the dental hygiene process. DENT PUB HLTH

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

**Yamamoto**

Clinical application of the dental hygiene process for delivering patient-centered dental hygiene care incor-

porating a human needs theory framework. Patient care responsibilities will include prevention-oriented dental hygiene care and non-surgical periodontal therapy. Improved proficiency in assessment, planning, goal setting, implementation, and evaluation of patient care and associated professional responsibilities will be emphasized. DENT PUB HLTH

**160. Ethics and Jurisprudence.** (1) W. Lecture 1 hour.

**Hannebrink**

Introduction to the ethical, legal, and professional responsibilities of the dental hygienist. Emphasis on the California Dental Practice Act, malpractice prevention, and professional organizations. DENT PUB HLTH

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

**Rowe**

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

**163.01. Comprehensive Dental Hygiene Care.** (2) F. Lecture 2 hours.

**M. Walsh**

Study and integration of additional clinical procedures into the dental hygiene process to insure and enhance quality comprehensive dental hygiene care. DENT PUB HLTH

**163.02. Comprehensive Dental Hygiene Care.** (1) Sp. Prerequisite: DH 163.01. Lecture 1 hour.

**D. Perry**

Continuation of the study and integration of additional clinical procedures into the dental hygiene process to insure and enhance quality comprehensive dental hygiene care. DENT PUB HLTH

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

**Hannebrink**

Clinical seminar to discuss clinic policies and procedures, dental hygiene treatment planning, and related topics. DENT PUB HLTH

**166. Expanded Clinical Functions** (2) F. Lecture 1 hour. Lab 3 hours.

**Hannebrink**

Study of the anatomical, physiological, pharmacological, and periodontal aspects of the administration of local anesthetics, nitrous oxide-oxygen sedation, and performance of soft tissue curettage. Students obtain didactic and clinical experiences in these functions. DENT PUB HLTH

**169A-B-C. Compr Clinical Dental Hygiene Care.** (4-5-5) F,W, Sp. Prerequisite: Dental Hygiene

150.01, 150.02, 150.03, 150.04, 155A, 154.01, 154.02, 154.03, 159. Concurrent enrollment in Dental Hygiene 169. Clinic 12 hours F, 15 hours W, Sp.

**Perry**

Assessment of patient histories and signs of deviation from normal in the oral-facial complex, and planning, implementing and evaluating comprehensive dental hygiene care within a human needs framework. Includes advanced techniques of periodontal nonsurgical and maintenance therapy, pain control, gingival curettage, for the periodontitis-affected patient. DENT PUB HLTH

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

**Walsh**

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, Silverstein**

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 Public Health and Hygiene

**117. Professional Issues in Dentistry.** (3) F. Seminar 8 hours.

**Silverstein and Staff**

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

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

**Bird**

Course is designed to further the development of the third-year student's behavioral science and dental personnel management skills. Focus is on skills in managing office personnel and patient care. The elements of developing the OSHA-required Hazard Communication Program are included. DENT PUB HLTH

**131. Behavioral Sciences in Dental Practice.** (1) SS1, SS2. Lecture 1 hour.

**Gerbert**

This course will cover dentist-patient communication, special patients, psychosocial aspects of dental care, and issues of professionalism. DENT PUB HLTH

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

**Bird and Staff**

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

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

**Bird and Staff**

This is a multidisciplinary course designed for the beginning fourth-year dental student. It is designed to prepare students for the advanced clinical skills needed in esthetics, materials, complex case and team efficiency management. In addition, it is intended to give the student direction to achieve immediate post-graduate goals. DENT PUB HLTH

**149. Family Dental Care.** (0-8) Su. 15 hours per week for 1 week.

**Bird and Staff**

This is a multidisciplinary course designed for the beginning fourth-year dental student. It is designed to prepare students for the advanced clinical skills needed in esthetics, materials, complex case and team efficiency management. In addition, it is intended to give the student direction to achieve immediate post-graduate goals. DENT PUB HLTH

**150. Dental Morphology.** (2) F. Prerequisite: Concurrent enrollment in Dental Hygiene 150A. Lecture 2 hours.

**Wong**

The development and form of deciduous and permanent dentition and occlusion. Study of individual tooth and arch form to interarch relationships as well as endodontic morphology. DENT PUB HLTH

**175. Dental Public Health Practice & Clinic.**

(1-9) Su, F,W, Sp. Prerequisite: Postgraduate standing and permission of instructor.

**Silverstein and Staff**

To provide the dental public health residents with the opportunity to participate in the Family and Preventive Dental Service. They will learn about marketing strategies, computer billing services, office management, expanded function dental auxiliaries, and the delivery of preventive dental services. DENT PUB HLTH

**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

**186. Multidisciplinary Geriatric Care.** (1.5) F,W, Sp. Lecture 2 hours. Field work 2 hours. Conference 1.5 hours (optional).

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

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

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

**Greene**

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

**186.20. Communication Skills in Dentistry.** (1) F. Seminar 1 hour.

**Yee, Bird, and Staff**

Practice management: communication skills in dentistry. Students will learn effective communication skills with patients and staff through personality profiles. They will become effective in case presentations, and in dealing with fearful, angry, unmotivated patients. DENT PUB HLTH

**186.30. Dental Private Practice: Career Guidance and Planning.** (1) W. Seminar 1 hour.

**Yee, Bird, and Staff**

Practice management: career guidance and planning. Students will learn effective resume writing and interviewing skills for associateship positions, and key steps needed to purchase a new or existing dental practice. Each student will have written career and life goals and action steps. DENT PUB HLTH

**186.40. Dental Private Practice: Financial Planning and Management.** (1) Sp. Seminar 1 hour.

**Yee, Bird, and Staff**

Practice management: financial planning and management. Effective financial management principles to run a profitable, low stress private practice. Concepts on debt management, cash flow, fee setting, budgeting, doctor and staff compensation, and break-even analysis will be covered. DENT PUB HLTH

**186.50. Advanced Dental Practice Management.** (1-2) F,W, Sp. Prerequisite: Permission of instructor.

Restriction: Limited to 15 students. Seminar 1 hour. Research 1 hour. Project 1 hour (optional).

**Bird**

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

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

**Gerbert, Wycoff**

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

**188.10. Dental Science and Health Education I.** (1) F. Prerequisite: DPHH 116 or consent of instructor.

Restriction: Limited to 6-10 students. Seminar 1 hour. Research 0-1 hour. Field work 0-3 hours.

**Pollick**

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

**188.20. Dental Science and Health Education II.** (1) W. Prerequisite: DPHH 188.10 or consent of instructor.

Restriction: Limited to 6-10 students. Seminar 1 hour. Research 0-1 hour. Field work 0-3 hours.

**Pollick**

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

**188.30. Dental Science and Health Education III.** (1) Sp. Prerequisite: DPHH 188.20 or consent of instructor.

Restriction: Limited to 6-10 students. Seminar 1 hour. Research 0-1 hour. Field work 0-3 hours.

**Pollick**

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

**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

**410. Practice Management for Advanced Education in General Dentistry.** (1) W. Seminar 1 hour.

**Bird**

This seminar series is designed to provide the trainee with information on hiring, training, and evaluating personnel; purchasing or associating in a dental practice; role of business and professional advisers; and development of a business plan. DENT PUB HLTH

**429.10. Clinical Teaching Practicum.** (0-4) F,W, Sp. Clinic 4 hours. Restriction: AEGD students enrolled in the second-year program.

**Brody**

Instruction and practice in providing dental clinical teaching. DENT PUB HLTH

**489. Advanced Care for Special Patients.** (0-6.5) Su, F,W, Sp.

**Bird, Chin, Weisman**

This seminar series will present the etiology, rationale, and methods used in the oral diagnosis and dental treatment of patients with medical or physical conditions that require a modification in the provision of dental care. Trainees will provide dental services for such patients. DENT PUB HLTH

**489.10. Advanced Dental Care for Special Patients.** (0-6.5) Su, F,W, Sp. Prerequisite: DPHH 489.

Restriction: AEGD students enrolled in the second-year program.

**Chin**

This course will emphasize the provision of comprehensive dental services for patients with special needs such as the frail, elderly, developmentally disabled, and medically compromised. Students will provide clinical instruction for first-year trainees. DENT PUB HLTH

## Dermatology

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

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

**140.01. Advanced Dermatology Clerkship.**

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

**Odom**

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

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

**Wintroub**

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

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

**Hamlin**

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

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

**Odom**

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

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

**Wintroub**

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

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

**Wintroub and Staff**

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

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

**LeBoit**

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

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

**Maibach and Staff**

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

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

**Wintroub and Staff**

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

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

**Wintroub and Staff**

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

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

**Wintroub**

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

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

**Wintroub and Staff**

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

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

**Aly**

Course is designed to familiarize dermatology residents with the techniques of isolation and identification of dermatophytes, skin bacteria, and viruses. Occasional lectures on specialized topics are given. DERMATOL

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

**451. Clinical Care Clerkship.** (1.5 per week) Su, F, W, Sp.

**Wintroub**  
Residents, under supervision, are responsible for patient care in the wards and outpatient clinic. Duties include history-taking, physical examinations, and consultation. In addition, the senior resident has certain administrative, teaching, and clinical responsibilities. DERMATOL

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

**Wintroub**  
Assistant residents work at off-campus hospitals, in the United States and other countries, approved by the dean and the chairperson of the department. Course includes training in clinical and investigative dermatology. DERMATOL

## Endocrinology

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

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

**Staff**  
Individual research in endocrinology supervised by members of the faculty in the Interdisciplinary Group in Endocrinology. PHYSIOLOGY

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

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

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

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

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

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

**203. General Endocrinology.** (5) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 3 hours. Seminar 1 hour.

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

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

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

**250. Research.** (1-8) § F,W, Sp.

**Hall**  
PHYSIOLOGY

## Epidemiology

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

**100. Medical Parasitology.** (2) Sp. Prerequisite: Microbiology 100 (without parasitology) or equivalent, or concurrent enrollment. Lecture 2 hours.

**Heyneman**  
An introduction to protozoa and helminths and human diseases they produce. Parasite epidemiology and life cycles, diagnosis, clinical aspects, treatment, and control are considered in lectures, films, and Kodachrome slides. Laboratory demonstrations keyed to lectures are displayed throughout the week. EPID & BIOSTAT

**101. Epidemiology and Biostatistics.** (3) Sp. Lecture 1.5 hours. Seminar 1.5 hours. Restriction: First-year medical student or consent of instructor.

**Ernster, Croughan-Minihane, Black**  
Introduction to epidemiologic and biostatistical methods: Research approaches to disease etiology, prevention and treatment; interpretation and critical evaluation of medical literature; measures of disease occurrence; screening and diagnostic test evaluation; major disease risk factors; and clinical importance of preventive medicine. EPID & BIOSTAT

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

**Petrakis and Staff**  
Clerkships in clinical epidemiology in off-campus settings. EPID & BIOSTAT

**140.03. Leprosy.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110 and consent of instructor.

**Gelber**  
An introductory course in the diagnosis and care of leprosy patients. Selected readings will be discussed on the clinical presentation, therapy, and immunology of leprosy. Additional time on the service, with increasing clinical responsibility, may be arranged. EPID & BIOSTAT

**140.05. Clinical Clerkships Abroad.** (1.5 per week) F,W, Sp. Prerequisite: Nine months of clinical work and Epidemiology 150.01, or consent of instructor.

**R. Goldsmith, Braveman, S. Lane**  
Clinical clerkship elective in a developing country. Students provide patient care at a medical school, provincial hospital, or rural health clinic for eight to twelve weeks. Arrangements may also be made to participate in a public health or research program abroad. EPID & BIOSTAT

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

**Siegel, Bersot, Cheitlin**  
Clinical experience in hypertension, lipid, cardiology, and smoking cessation clinics stressing behavioral interventions. Students also participate in a seminar covering major topics in preventive cardiology, choose a topic for presentation, and develop ability to evaluate literature critically. EPID & BIOSTAT

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

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

**150.02. Research Abroad.** (1.5 per week) Su, F,W, Sp. Prerequisite: Consent of instructor. Restriction: Limited to 2 students per block.

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

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

**Petrakis and Staff**  
Survey and discussion of key papers in the epidemiology of major cancer sites. Emphasis is on etiologic and methodologic aspects and implications for prevention. EPID & BIOSTAT

**170.05. Intro to International Health.** (2) W. Lecture 2 hours.

**F. Dunn and Staff**  
Lectures and discussion to survey the history, organizational structure, major activities and topics that comprise the field of international health. EPID & BIOSTAT

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

**Gelber**  
A laboratory research problem of leprosy under the guidance of a member of the staff of the Leprosy Research Unit at Seton Medical Center. The unit's major research areas are the pharmacology, immunology, and chemotherapy of leprosy in animals and man. EPID & BIOSTAT

**170.08. International Health Policy.** (2) Sp. Lecture 2 hours.

**P. Lee, F. Dunn, J. Justice**  
Lectures and discussions to examine topics and issues in international health at the level of policy. EPID & BIOSTAT

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

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

**170.12. Epidemiology of Infectious Diseases.** (1-2) F. Prerequisite: Previous or concurrent enrollment in an introductory epidemiology course, such as Epidemiology 101 or equivalent, and previous or concurrent enrollment in an introductory microbiology course, such as Microbiology 100B or equivalent. Lecture/seminar 1 hour. Term paper for 2 units optional with consent of instructor.

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

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

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

**180. Hlth Intervention in Devl Areas.** (1) § Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Project 1 hour.

**Kiefer**  
Explores practical and ethical problems of health workers from urban-industrial cultures intervening in developing areas. Provider/client differences in perception, values, needs. Problems of goal-setting, assessment, rapport, communication, consensus-building, evaluation. Practical experience in teaching health promotion to underserved groups. EPID & BIOSTAT

**180.01. Tropical Medicine Clinics.** (1-2) § Su, F, W, Sp. Prerequisite: Epidemiology 100 and 6 months of clinical experience. Clinic 4-8 hours.

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

**180.04. Research Design.** (3) § Su, F Prerequisite: Consent of instructor. Lecture 1 hour. Workshop 6 hours.

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

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

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

**180.07. Environmentally Induced Disease.** (1) Sp. Lecture 1 hour.

**Tarcher**  
A lecture series on the cause, diagnosis, treatment and prevention of environmentally induced disease. Topics include pesticides, hazardous wastes, indoor and outdoor air pollution, water pollution, susceptible populations, and the relationship of nutrition to environmentally induced disease. EPID & BIOSTAT

**186. Tropical Medicine Lectures.** (1) § Sp. Lecture 1 hour.

**R. Goldsmith**  
Lectures, case histories, and films emphasizing diagnosis and treatment of tropical diseases including malaria, amebiasis, cholera, typhoid, schistosomiasis, leprosy and arbo-virus infections, plus a review of opportunities for clinical clerkships abroad in developing countries. EPID & BIOSTAT

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

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

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

**Staff**  
Library research and directed reading under supervision of a member of the faculty. EPID & BIOSTAT

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

**Staff**  
A laboratory research project under direction of a member of the faculty. EPID & BIOSTAT

**201. Socioepidemiology of Aging.** (3) § Sp. Prerequisite: Consent of instructor. Lecture/seminar 2 hours. Library research 3 hours.

**Davis and Guest Lecturers**  
Overview of the influences of sociodemographic structure, status, processes and changes on morbidity, functioning, longevity and mortality across the adult life span, with special emphasis on changes in sociodemographic risk factors with age. EPID & BIOSTAT

## Family and Community Medicine

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

**Shore, Mitchell**  
Students function as family/primary physicians in ambulatory settings at affiliated residency programs. Family Practice: at SFGH, CHS in Santa Rosa, NAT in Salinas, and VMC in Fresno. Primary Care Internal Medicine: at UC, SFGH, and MZ. FAM CM MED

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

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

**Shore**  
Students work with a family physician, alternatively general internist or general pediatrician, in the office, observing the practice and performing duties as training permits. Experience will teach common health problems and primary care in a community. Rural preceptorships are encouraged. FAM CM MED

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

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

**140.06A-B-C. Rehabilitation Medicine.** (1.5 per week) A, B, and C are offered in all of the following quarters: Su, F,W, Sp. Prerequisite: Consent of instructor.

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

**140.15. Longitudinal Clinic.** (1) Su, F,W, Sp. Prerequisite: Senior clerkship which would enable the student to pick up patients to be followed in clinic.

**Shore, Mitchell, Brody**  
Students will see primary care patients one-half day per week for six to nine months. They will continue to see patients who were initially seen during the student's medicine or FCM 110 clerkship. FAM CM MED

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

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

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

**F. Walter**  
Students receive practical training in emergency medicine, in emergency prehospital care, and also in the care of the critically ill and injured patient in the

emergency room. Daily emergency medicine case conferences and weekly conferences augment clinical experience. FAM CM MED

**140.52. Rural Family Practice-Selma.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110, Surgery 110, Pediatrics 110, Ob/Gyn 110.

**Shafer, Dzvonik**  
Primary care at Selma Community Health Center, in an agricultural community near Fresno. Ambulatory practice includes pediatrics, obstetrics, gynecology, and chronic diseases. Includes patient rounds, deliveries, and emergency room experience at modern rural hospital. Exposure to rural private family practice available. FAM CM MED

**140.53. Inpatient Medicine/Family Practice.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110, FCM 110, fourth-year standing.

**Heiligman, Nowlis, McCann**  
Students function as subinterns on general medicine ward staffed by Family Practice residents and faculty. Acute medical care is provided with special input from department psychologist and health educator. FAM CM MED

**140.54. Primary Care in the Latino Community-Fresno.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110, or Peds 110, or Ob/Gyn 110, or consent of instructor.

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

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

**Barbaccia, Werdegger 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

**140.61. Geriatrics-Long-Term Care-LH.** (1.5 per week) Su, F,W, Sp. Prerequisite: Third-year standing.

**Beck, Borgenicht and Johnson**  
Students will work with geriatricians and other health professionals to learn about the clinical management of geriatric patients. 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.

**Coady, Goldsmith, Petitti**  
A 4-12 week elective involving placement at a supervised primary care training and/or service site abroad.

Placements will be made according to student interest and language capability, and according to availability of appropriately supervised sites, mainly in Latin America. FAM CM MED

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

**Rodnick, Barbaccia and Staff**

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

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

**Barbaccia**

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

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

**W. Shore**

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

**160.03. Family Practice Preceptorship.** (1-3)

Su, F,W, Sp. Prerequisite: Medical student standing. Consent of instructor. Field work 4-12 hours.

**Shore**

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

**160.04. Seminars in Sports Medicine.** (3) F. Open only to second-year School of Medicine students or graduate students in Physical Therapy. Seminar 2.5 hours. Field work 1 hour.

**Brown**

A seminar series and practical field experience providing basic information on a broad variety of issues in sports and dance medicine, including evaluation, prevention of injury, conditioning, environmental issues and sports psychology. 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, N. Medina**

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

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

**Ransom, Braveman, Segal**

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

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

**Coady, Lane, Goldsmith, Pettiti**

An elective involving placement at a supervised primary care training and/or service site abroad. Placements will be made according to student interest and language capability as well as availability of appropriately supervised sites. FAM CM MED

**170.01A-B-C. Special Issues in Health Care.** (0-3) A, B, and C are offered in all of the following quarters: Su, F,W, Sp. Prerequisite: Consent of instructor. Lecture and reading 1-3 hours.

**Rodnick and Staff**

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

**170.02. Elderly Community Programs.** (2) W.

Lecture 1 hour. Conference 2 hours. Enrollment limited.

**Barbaccia, Robinson, Weiss**

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

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

**L. Crain**

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

**170.04. Rehabilitation in Primary Care.** (1) Su, F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours for 6 weeks.

**Byl, Berrol**

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

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

**L. Crain**

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

**170.07. Communication with Latino Patients.**

(2) F,W, Sp. Prerequisite: Medical student status. Lecture 2 hours. Lab 1 hour.

**Braveman, Koreck, Vasquez-Vega**

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

**170.08. Complementary Forms of Healing.** (1)

F Medical students only. Lecture 1 hour.

**Hughes**

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

**170.09. Health Issues in Central America.** (1) W. Lecture 1 hour.

**Baron, Braveman, Perez-Stable**

A lecture-discussion course on current issues in health care in Central America. Emphasis is on relationship between health situation in Central American nations and its relation to Central American patients seen in San Francisco. FAM CM MED

**170.10A. Homeless Health Issues.** (1) F. Lecture 1 hour.

**Desmond**

A survey course covering the broad spectrum of living issues (health care, drug addiction, HIV, shelter life, etc.) confronting the homeless population of San Francisco. The seminar will be given in lecture format during the lunch hour. One session will be devoted to discussion of issues presented. FAM CM MED

**170.10B-C. Homeless Health Issues: Case Discussion and Presentation.** (1-1) W, Sp. Prerequisite:

Involvement with student-run homeless health clinic. Conference 1 hour.

**Lane**

A two-quarter conference which enables first- and second-year medical students to research and present case studies encountered during work at the student-run clinic. Two to three cases will be presented and discussed each week. FAM CM MED

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

**Tennenhouse**

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

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

**Tennenhouse**

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

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

**J. Cook**

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

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

**Rodnick**

An exploration of the comprehensive role of the family physician in providing longitudinal health care. Students will learn to recognize priorities in patient care, with an emphasis on the patient as a whole person. FAM CM MED

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

**Barbaccia**

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

**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.

**Rodnick 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

**Genetics**

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

**Herskowitz**

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

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

**Guthrie**

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

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

**Herskowitz and Staff**

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

**222. Topic in Medical Genetics.** (1) § Su, F,W, Sp. Conference 1.5 hours. Clinic 1.5 hours.

**Epstein, Packman, Cox**

A course using participation in a working genetics clinic and directed reading and discussion to present the concepts and approaches of medical genetics and the application of molecular, cellular, and developmental biology to the understanding of human genetic disease. BIOCHEM

**224. Advanced Human Genetics.** (1.5) § Sp. Lecture 1.5 hours. Offered in alternate years. Offered 1993-94.

**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

**226. Human Developmental Genetics.** (2) § Sp. Seminar 2 hours. Prerequisite: Genetics 200A. Offered in alternate years. Not offered 1993-94.

**Epstein**

A seminar course in which human genetic disorders affecting morphogenesis and development will be analyzed to elucidate the pathogenetic relationships between the underlying molecular defects and the resulting phenotypic abnormalities. BIOCHEM

**250. Research.** (1-8) § F,W, Sp.

**Staff**

BIOCHEM

**Growth and Development**

**110. Normal & Abnormal Craniofacial Dev.**

(1) F Lecture 1 hour.

**Kahn, S. Fisher, C. Cook, R. Coleman, Kapila**

Developmental processes underlying normal and abnormal craniofacial morphogenesis are presented and the biologic basis for congenital malformations are discussed. GR DEVEL

**120. Orofacial Functions/Dysfunctions.** (1) W. Lecture 1 hour.

**Vargervik, Peterson-Falzone, Kapila**

Clinical considerations of normal and abnormal patterns of orofacial function are discussed to provide a basis for diagnosis and prognosis of functional disorders involving the orofacial region. GR DEVEL

**122. Oral Physiology.** (1.5) F Lecture 3 hours.

**A. Miller**

The physiology of the craniofacial region will be taught emphasizing endocrine control of calcium and phosphate, mineralization, salivation and taste, sensory control related to craniomandibular muscles, mastication, swallowing, and characteristics of craniomandibular muscles. GR DEVEL

**188. Relevance of Neuromuscular System to Craniofacial Dev.** (2) F Prerequisite: Physiology.

Enrollment limited to senior dental students and post-doctoral graduate students in orthodontics, pediatric dentistry, removable prosthodontics.

**A. Miller**

Course illustrates how the neuromuscular system of the craniomandibular region affects and interacts with craniofacial development by modifying its function, diet, force development, impairing its development and function, and altering occlusion. GR DEVEL

**210. Developmental Biology of the Craniofacial Complex.** (2) § SS1, SS2. Prerequisite: Available for credit to graduate students in Oral Biology, dental postgraduate specialty programs, and as an elective to upper class students in Dentistry and Medicine. Lecture 1 hour. Seminar 0.5 hour. Conference 0.5 hour.

**Kahn, Derynck, Vargervik, Chierici, Damsky** Lectures, seminars, and classroom discussion on the fundamental mechanisms underlying craniofacial development and the etiology, pathogenesis, and treatment of craniofacial defects. GR DEVEL

**Health Sciences Education**

**200. Intro to Teaching Health Science.** (1) § F. Prerequisite: Consent of instructor. Lecture 2 hours.

**Lem**

The course focuses on instructional techniques and strategies useful for the beginning instructor. Emphasis is placed on teaching professional students in the School of Pharmacy. Open to graduate students, residents and new faculty. PHARMACY

**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.

**Staff**

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, Sp. Prerequisite: Consent of instructor. Lecture 1-2 hours. Optional 1-2 hour seminar, conference, or independent study or research paper.

**Risse**

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

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

**Staff**

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

**200A. Introduction to Medical History.** (2-4) § F. Prerequisite: Consent of instructor. Lecture 2 hours.

Seminar 1 hour (optional). Term paper (optional).

**Risse**

General survey chronologically arranged from prehistory to the Renaissance. This course examines the changing burden of disease across cultural and geographic boundaries and presents broad conceptual developments that in each period influenced the evolution of medical knowledge and professional activities. HIST HL SC

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

**Risse, Pressman**

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

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

**Pressman**

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

**201A. Health and Plagues: Ecology and History.** (2-4) § F. Prerequisite: Consent of instructor.

Lecture 2 hours. Seminar 1 hour. Term paper (optional).

**Risse**

General overview of health conditions across cultural and geographic boundaries from prehistory to the Renaissance, including leprosy and the Black Death. The focus will be on factors, both biological and social, responsible for the shifting ecology of disease. HIST HL SC

**201B. Health and Plagues: Ecology and History.** (2-4) § W. Prerequisite: Consent of instructor.

Lecture 2 hours. Seminar 1 hour. Term paper (optional).

**Risse, Pressman**

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

**201C. Health and Plagues: Ecology and History.** (2-4) § Sp. Prerequisite: Consent of instructor.

Lecture 2 hours. Seminar 1 hour. Term paper (optional).

**Risse, Pressman**

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) § W. 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 and interpreting history. HIST HLTH SCI

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

**Pressman**

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

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

**Pressman**

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

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

**Pressman**

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

**210. Topics in the History of Nursing.** (2-3) § Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Term paper (optional).

**Flood**

Selected topics in nursing history since the time of Florence Nightingale examined within the context of professional education, women's roles, and health care. HIST HL SC

**211A. History of Hospitals I.** (2-4) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour

**Risse**

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). § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour.

**Pressman**

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**

The rise of the American health care system and the broadening cultural authority of the medical expert are examined historically. Topics include sectarian medicine, nursing, the Progressive movement, intelligence testing, pharmaceuticals, and the role of government. HIST HLTH SCI

**215. Clinical Medicine Since 1750.** (2-4) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).

**Risse**

Clinical developments in Europe and America with emphasis on diagnostic and therapeutic procedures. The course examines both patients and professionals

within the scientific, behavioral, and social contexts of medical practice. HIST HL SC

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

**Staff**

Seminar allowing individual staff or guest lecturers to present selected topics in the history of the health sciences based on their current research and publications. HIST HL SC

**250. Research.** (1-8) § F,W, Sp. Prerequisite: Consent of instructor. Seminar 1-4 hours.

**Staff**

Supervised independent research, including presentations and criticism of research sources, methods, and papers. HIST HL SC

**252. Women, Health, & Healing.** (2-4) § F,W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour (optional). Term paper (optional).

**Clarke**

Historical perspectives on women's health status as patients, providers, and reformers with a focus on nineteenth- and early twentieth-century developments in the US and Great Britain. HIST HL SC

**297. Special Study.** (1-4) § F,W, Sp. Prerequisite: Consent of instructor. Seminar 1-2 hours. Term paper/independent study (optional).

**Staff**

Supervised independent study intended to provide directed reading in subject matter not covered in scheduled seminar offerings. HIST HL SC

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

**Staff**

For graduate students engaged in writing the thesis for the master's degree. HIST HL SC

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

**Staff**

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

## Human Development & Aging

**200. Off-Campus Study.** (0) § F,W, Sp. Prerequisite: Approval of graduate adviser.

**Staff**

Full-time graduate study in the Human Development and Aging program through the intercampus exchange or consortium program. PSYCHIATRY

**201A-B-C. Fundamental Theories & Methods.** (1-4) § F,W, Sp. Prerequisite: Consent of instructor. Seminar 4 hours.

**Staff**

Psychological and sociological theories and methods in the study of the human life cycle. Topics include

models of development, life course, adult socialization, age stratification, intergenerational issues, cognition, historical and demographic perspectives, personality, stress, transitions, age-comparative coping, and psychopathology. PSYCHIATRY

**202A-B-C. Res Meth in Adult Devel & Aging.** (4) § F,W, Sp. Prerequisite: Consent of instructor. Lab 6 hours.

**Staff**

This three-quarter course covers major methods and techniques of life course/life span research including surveys, field observations, analysis of quantitative and qualitative data, and longitudinal research. PSYCHIATRY

**204. Personal Development.** (2) § F,W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**Kiefer**

Representative works from behavioral science literature and world poetry and prose are brought together in the study of personality development in adult life. Compares insights from the two fields on how the developing person copes with social, historical, and psychological challenges. PSYCHIATRY

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

**Mullan**

Students either provide their own or use accessible data from ongoing research projects. Emphasis is on training in data organization, analysis, and research report writing. PSYCHIATRY

**207. Methods of Survey Research.** (3) § F,W.

Prerequisite: Consent of instructor. Lecture 3 hours, plus field work.

**Pearlin**

Course covers the major tasks of survey research. Topics such as conceptual specification, the development of indicators and measures, the construction of questionnaires, sampling, field testing, interviewing, and analysis are covered. PSYCHIATRY

**214. Adv Personal Development.** (2-3) § Sp. Prerequisite: Hum Dev 204, or consent of instructor. Seminar 2 hours, optional extra unit.

**Kiefer**

The prerequisite, Hum Dev 204, combines study of mainstream theories of adult personality development with literary works as case material. This course, Hum Dev 214, proceeds to the study of alternative modes from lesser-known Western and Asian traditions—C.G. Jung, William James, Hindu, Buddhist, Taoist, and Judeo-Christian spiritualist writings—and literary examples based on these. PSYCHIATRY

**220. Pro-Seminar.** (1) § F,W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, given in alternate weeks.

**Staff**

Students, staff, or guest lecturers present selected topics, based on their current research. PSYCHIATRY

**229. Sociology of Stress.** (2) § F,W, Sp. Prerequisite: Consent of instructor. Doctoral students only. Seminar 2 hours.

**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. PSYCHIATRY

**230. Research Project Seminar.** (6) § F,W, Sp. Prerequisite: Graduate standing in Human Development and Aging Program, or consent of instructor. Seminar 4 hours. Six hours additional research work.

**Staff**

Students are required to conduct individual research project. Seminar is organized around methodological issues including reliability, validity and development of scales and measures, and specific problems related to formulation of goals of the studies and collection and analyses of data. PSYCHIATRY

**231. Social Psychology of Aging.** (3) § F Prerequisite: Doctoral student and consent of instructor. Lecture 2 hours. Lab 3 hours.

**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. 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 1993-94.

**R. Day**

Social, behavioral, and clinical aspects of human sexuality are covered in a series of lectures. Lectures will present didactic material. PHARMACY



## Interdepartmental Studies

**100. Cell & Tissue Biology.** (10) § F Lecture 7 hours. Lab 4 hours. Conference 2 hours.

**Colby, Wissig, Michaeli**

Course covers the basic principles of molecular and cell biology, as well as the microscopic organization of cells, tissues, and organs with emphasis on relationships of structure and function. The histology of endocrine and reproductive systems is covered in a separate course. Intended for students in the School of Medicine and for beginning graduate students. ANATOMY & BIOCHEM

**110. Core Clerkship in Surg Specialties.** (1.5 per week) Su, F, W, Sp. Prerequisite: Third-year standing.

**R. Boles, J. O'Donnell, J. Morris, E. Tanagho**

A four-week required clerkship in the surgery specialties including Ophthalmology, Orthopaedic Surgery, Otolaryngology, and Urology. The curriculum will consist of lectures, seminars, physical diagnosis, outpatient clinical activities and, to a limited degree, procedure and surgical experience in both ambulatory and operating room areas. OTOLARYN, OPHTHALMOL, ORTHO SURG, UROLOGY

**135. Reproduction Growth & Devel.** (3) F Lecture 3 hours.

**Parer, Sniderman**

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

**149. Family Dental Care.** (0-8) Su, F, W, Sp. Prerequisite: 4th-year standing.

**Bird and Staff**

The fourth-year dental student will learn advanced skills in pediatric and general restorative dentistry in oral diagnosis, treatment planning, and delivery of comprehensive dental care. Emphasis will be on the efficient delivery of care considering the family as a unit. DENT PUBL HLTH

**191. Introductory Cell Biology.** (3.5) § F Lecture 6 hours, lab 4 hours, conference 1 hour: 4-week course.

**D. Colby, S. Wissig**

Course covers the basic principles of cell biology and introduces the histology of epithelia, nerve cells, muscles, and connective tissue. Intended for beginning graduate students. ANATOMY & BIOCHEM

**192. Introductory Molecular Biology.** (2.5) § F Prerequisite: Interdepartmental Studies 191. Lecture 3 hours, conference 1 hour: 7-week course.

**D. Colby**

Covers the basic principles of molecular biology with emphasis on their application to control of gene expression in humans. ANATOMY & BIOCHEM

**193. Organ System Histology.** (4) § F Prerequisite: Interdepartmental Studies 191. Lecture 3 hours, lab 4 hours, independent study 4 hours: 7-week course.

**S. Wissig**

Course covers the light and electron microscopic structure of organs with emphasis on the relationship of structure to organ function. The histology of endocrine and reproductive systems is presented in a separate course, Physiology 101. ANATOMY & BIOCHEM

## Laboratory Medicine

**140.01. Principles of Laboratory Medicine—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Two years of medical school.

**Gottfried, Ng, Hadley, Hung, Khayam-Bashi**

Laboratory sessions, seminars and rounds at SFGH correlate laboratory tests with clinical case studies.

This course covers general principles and specific topics in chemistry, hematology, microbiology, serology, immunology and transfusion medicine. The schedule can be modified to accommodate special interests. LAB MED

**140.05. Clinical Pathology—VMC.** (1.5 per week) § F, W, Sp. Prerequisite: Medicine 110 and consent of instructor.

**Sobenes, Moseley**

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.

**Bauer, Beland, Mann**

Utilization of different laboratory settings, organizations, and approaches by pathologists in hospitals throughout the Fresno community. Included is coverage of traditional areas of clinical pathology in addition to such specialized areas as cytogenetics and therapeutic drug monitoring. LAB MED

**140.07. Hematology—UC.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110.

**Atwater, Corash**

Students participate in daily operations of the hematology laboratory, working with a resident on either the Bone Marrow or Heme-Coag rotations evaluating current case materials, attending daily signout rounds, and attending weekly teaching conferences. LAB MED

**140.08. Laboratory Medicine Microbiology.** (1.5 per week) Su, F, W, Sp. Third- or fourth-year medical students.

**Hadley, Pulliam, Brooks**

Course provides practical microbiology laboratory instruction correlated with clinical infectious disease rounds. The student will observe laboratory diagnosis of viral, bacterial, fungal, and parasitic infections. The goal is a better understanding of how to use the laboratory for infectious diseases diagnosis. The practical course may be taken at VAMC, SFGH, or UC (four weeks per site). LAB MED

**160.01. Radionuclides.** (2) Su, F, W, Sp. Prerequisite: One year of medical school. Lecture 1 hour. Clinic 4 hours.

**Lull, Lim, Yen**

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.

**Palefsky, 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

**452. Cytometry & Cell Analysis.** (3) W. Lecture 3 hours.

**Mayall**

Course introduces the theory and techniques of image cytometry, flow cytometry, and flow sorting, and surveys the research and clinical applications of these powerful techniques for the analysis of individual cells. LAB MED

## Medicine

**110. Medicine Core Clerkship—UC—SFGH—VA—MZ—VAF—VMC.** (1.5 per week) 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) Su, Sp. Prerequisite: Medicine 110 and Surgery 110. Restriction: All fourth-year students in School of Medicine for May session; all third-year students in School of Medicine for June session.

**Lo**

Course will discuss the ethical, legal, and policy issues in the clinical practice of medicine. Students are required to write a paper analyzing a case that presented ethical dilemmas. MEDICINE

**131A-B-C. Introduction 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; 4 hours W, Sp.

**M. Cooke, P. Braveman**

Interdepartmental instruction in clinical problem-solving, interviewing, medical history, ethics, organization, and financing of care. On-going relationship with a patient focused on: health promotion/education; understanding barriers to access and "compliance"; community resources; health team. Small groups, lectures, and preceptorships. MEDICINE

**132A-B-C. Introduction to Clinical Medicine.**

(7-6-6) F, W, Sp. Prerequisite: Anatomy 100A-B, 103; Biochemistry 100; Interdepartmental Studies 100, Medicine 131A-B-C; Microbiology 100A-B (may be taken concurrently); Pathology 101, 102 (may be taken concurrently); Physiology 100, 101; or consent of instructor.

**M. Cooke**

Continuation of interdepartmental course on pathophysiology of disease and techniques of collecting and assessing clinical data, including history-taking, examination of the patient, and use of laboratory tests. Lectures, demonstrations, bedside work, laboratories, conferences, and independent study. MEDICINE

**140.01. Acting Internship—UC—VA—MZ—VAF—VMC—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of Medicine 110.

**UC Papadakis, VA Tierney, MZ 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. Hematology/Oncology—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Henderson**

Students function as interns supervised by a fellow and resident on the Clinical Cancer Service working up patients with hematologic and solid tumor malignancies. In addition, students attend conferences, perform daily procedures, and write orders under supervision. MEDICINE

**140.04. Infectious Diseases—VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of Medicine 110 and Surgery 110.

**Jensen, Tager**

Clinical elective with inpatient and outpatient infectious diseases at VAMC. Commonly encountered general ID problems of hospitalized patients, and

comprehensive outpatient management of HIV disease are stressed. Introduction to clinical microbiology and hospital epidemiology are included. MEDICINE

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

**Kline**

Students manage one to two patients per week, giving them direct "hands-on" clinical experience. Students are expected to participate in all cardiology conferences, ward rounds, ECG reading sessions, Echocardiography and Nuclear Medicine rounds. MEDICINE

**140.07. Oncology—SFGH.** (1.5 per week) F,W, Sp. Prerequisite: Medicine 110.

**Luce**

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.

**Scharschmidt**

Students, along with a second-year fellow, two first-year fellows, a medical resident and attending, serve as a member of the gastroenterology clinical service. Attend all conferences, participate in all patient management in both clinic and wards. MEDICINE

**140.09. Clinical Cardiology—MZ.** (1.5 per week) SS1, SS2, Su, F,W, Sp. Prerequisite: Medicine 110 and fourth-year standing. Consent of instructor.

**Mailhot, E. Cohen, Paley**

Students work up patients and follow patients through diagnostic and therapeutic procedures. There is considerable exposure to non-invasive, invasive, and interventional cardiology and post-operative cardiac care. Students participate in departmental conferences and hospital-wide conferences. MEDICINE

**140.10. Pulmonary Medicine—MZ.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110 and 140.01 or equivalent senior ward medicine experience. Consent of instructor.

**Addison**

Consultative service including diagnostic pulmonary problems, Intensive Care Unit consultations. Fiberoptic bronchoscopy and physiologic evaluation. Students will work up patients and follow them on a daily basis, discussing all aspects of their care with pulmonary residents and attending physician. MEDICINE

**140.11. Hematology/Oncology—C.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110.

**R. Cohen**

Students evaluate and manage patients with blood coagulation and its disorders, hematologic and solid tumor malignancies. Learn the technique of bone

marrow aspiration and biopsy, and the morphologic interpretation of these specimens. Attend boards, rounds, and conferences. MEDICINE

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

**Loneragan**

Serving on the Geriatric Evaluation and Management 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.

**Stansell, 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: Fourth-year standing. Lab 40 hours per week.

**Bolan**

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, under supervision, evaluate hematology patients in the outpatient/inpatient consultation service; review relevant clinical data; interpret bone marrow slides. Emphasis is on the diagnosis and management of patients with hemoglobinopathies, sickle cell diseases, disorders of hematopoiesis, and abnormal coagulation. MEDICINE

**140.18. Gastroenterology—VA.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**Grendell**

Students share consultations with GI fellows; work up patients on wards; see patients in outpatient; attend endoscopies; attend rounds and conferences. MEDICINE

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

**Karliner**

Students share consultations with cardiology fellows; work up patients on the wards; interpret EEGs and other Holter monitor studies; attend rounds and conferences. MEDICINE

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

**Locksley**

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

**140.21. Private Practice.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110. Approval of third- and fourth-year coordinator. Student must make arrangements with private-practice physician.

**Papadakis**

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

**140.22A. Pathophysiology—Cardiovascular.** (6) F,W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Minimum class size 12; maximum class size 20.

**Sebastian, Dohrmann**

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

**140.22C. Pathophysiology—Renal Disease.** (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.

**Sebastian, Ives**

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

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

**Sebastian, Benowitz**

Emphasis on applied pathophysiology and clinical therapeutics. Case-oriented workshops presenting the principles of therapeutics with application to specific therapy of common cardiovascular, respiratory, gastrointestinal and infectious diseases as well as diabetes. MEDICINE

**140.22I. Pathophys-Endocrine Metabolism.** (6) W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

**Sebastian, Karpf**

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

**140.23. Endocrine Metabolism—UC.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110.

**Tyrrell**

Students based at Moffitt Hospital, twelfth floor south, act as assistants to residents and to endocrine fellows for consultations as well as for hospitalized endocrine patients; attend endocrine and metabolic clinics and seminars, and teaching exercises of endocrinology and metabolism, including Medicine Grand Rounds. MEDICINE

**140.24. Rheumatology & Immunology—UC.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110.

**Sack**

Familiarization with clinical manifestations, rheumatic disease therapy, immunologic disorders. Participation in in/outpatient clinics. Basic immunologic principles as related to clinically apparent immunologic dysfunction. Assignment of pertinent literature, lectures, and introduction to principles and practice of various immunologic testing. MEDICINE

**140.25. Renal Disease—SFGH.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**Humphreys**

Students work up and follow up patients with a wide variety of renal and electrolyte disturbances, and see outpatients in a weekly Renal Clinic. Cases are discussed with attending physicians daily. Students also attend weekly Journal Club, Renal Grand Rounds, and Chief of Service Rounds. MEDICINE

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

**Addison, Woeber**

Primary emphasis is on the management of critically ill patients in Coronary Care Unit and Intensive Care Unit. Includes teaching in the use of monitoring equipment, cardioversion, and related aspects of critical care medicine. MEDICINE

**140.27. Cardiopulmonary—C.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110.

**Pont**

Students will attend rounds in the coronary care unit and receive instruction in cardiology, stressing electrocardiography; students may work in the pulmonary function laboratory and attend all teaching conferences and seminars. MEDICINE

**140.28. Infectious Disease—SFGH.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110.

**Chambers**

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

**140.29. Hematology—UC.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110.

**Shuman**

Students evaluate patients on the wards and outpatient clinics; review peripheral blood smears; participate in conferences and seminars. Emphasis on patients with blood coagulation disorders, hematologic malignancies, and anemia. MEDICINE

**140.30. Endocrine Metabolism—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**Schambelan**

The Endocrine-Metabolic Service provides daily housestaff and fellow-supervised consultations, four weekly clinics, bi-weekly rounds, and conferences on current research. Students participate in clinical investigation of patients with endocrine disorders who are hospitalized in the General Clinical Research Center. MEDICINE

**140.33. 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 also recommended.

**Chatterjee**

Students work as interns in the Coronary Care Unit and attend all regular teaching conferences and seminars. MEDICINE

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

**Ives**

The student will join the renal team and participate under supervision in evaluation and treatment of patients with renal disease or disorders of fluid, acid-base, or electrolyte balance. Emphasis is placed on pathophysiology, history-taking, physical examination, and treatment. MEDICINE

**140.35. Cardiology—SFGH.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110.

**Cheitlin, Rapaport**

Students see patients in consultation on wards and clinics, read electrocardiograms, improve auscultatory skills, review cases with cardiac consultant, observe cardiac procedures such as electrocardiograms and catheterizations, and attend all seminars and conferences. MEDICINE

**140.36. Advanced Clerkship in Emergency Medicine—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.

**Wang**

Advanced clerkship in emergency medicine with extensive hands-on instruction in procedures, decision-making, and management of acute patients. Two shifts spent with paramedics, one-half shift with the central EMS base station/dispatch. An excellent elective for students considering a career in emergency medicine. MEDICINE

**140.37. Emergency Medicine—H.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**Simon, English**

Students evaluate medical, surgical, gynecologic, and non-critical trauma patients under attending supervi-

sion. Attend short teaching conferences held daily, with longer departmental conferences weekly. "Hands-on" training such as suturing, casting and splinting, and airway managing are provided. MEDICINE

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

**Stulberg**

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

**140.40. Gastroenterology—KP.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Allison, Kaufman, Udkow, Grossman**

As a member of the GI Consult team, student will work-up patients, observe and participate in diagnostic and therapeutic procedures, and attend all rounds and GI diversion conferences. MEDICINE

**140.41. Gastroenterology—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth-year students.

**Cello**

Students are responsible for evaluation and presentation of gastrointestinal patients on medical and surgical wards. Work-ups are thoroughly discussed with gastroenterology staff. Students may also observe GI techniques including sigmoidoscopy, colonoscopy, endoscopy, liver biopsy. Conferences held weekly in conjunction with Surgery, Pathology and Radiology. MEDICINE

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

**Olson**

The Poison Control Center handles over 200 calls per day, many from physicians managing an acute poisoning or drug overdose. Students will learn to use computerized and other poison information resources; participate in discussions of a variety of acute poisonings. MEDICINE

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

**Wofsy**

This is an introduction to cardiac rheumatology and immunology. The student will participate in inpatient and outpatient care and take part in didactic conferences relating to rheumatology and immunology. MEDICINE

**140.45. Endocrine Metabolism—VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and consent of instructor. Enrollment limited. Priority given to UCSF students.

**Siperstein, Arnaud**

An introduction to the diagnosis and treatment of endocrine-metabolism diseases. Areas covered are

those endocrinopathies involving the major endocrine glands, as well as diabetes mellitus and hyperlipemias. Patients will be examined and treated in both the inpatient and outpatient services. MEDICINE

**140.46. Pulmonary Medicine—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year medical student in good standing.

**J. Murray, Hopewell, Sheppard**

Pulmonary disease, including clinical manifestations, basic pathophysiology, use and limitations of diagnostic studies and treatment. Experience will be gained by seeing patients on wards and through a series of ongoing conferences, ward rounds and review sessions under close faculty supervision. MEDICINE

**140.52. Renal Medicine—VA.** (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Medicine 110.

**Pollock**

A broad array of acute and chronic renal disease patients are worked up by the student under the direct supervision of the attending physicians. MEDICINE

**140.53. Infectious Disease—MZ.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

**L. Drew, Mintz**

Clinical and laboratory experience providing integrated approach to infectious disease. Emphasis on learning techniques in diagnostic microbiology (e.g., Gram stains, bacterial and viral cultures), and correlating these findings with clinical diagnosis and patient management. Attend daily rounds; research opportunities available. MEDICINE

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

**Busch**

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

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

**Luxenberg, Feigenbaum**

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

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

**Deedwania**

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

**140.58. Pulmonary Disease—VAF.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.

**P. Baylor**

Students on Chest Service will have primary care responsibilities for medical inpatients under supervision of the Physician Director of the Respiratory Care Service. Instruction on topics such as the use of respirators, arterial blood gas sampling and techniques. MEDICINE

**140.59. Adv Medicine Clerkship KTU—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing.

**Amend, Vincenti**

Rotation through an active renal transplant service including clinical immunology, clinical renal pathophysiology, renal diagnosis such as X-ray, biopsy, scan. The student's experience in the care of inpatients and outpatients will encompass other internal medical problems as well. MEDICINE

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

**R. Freeman**

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

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

**Laufer**

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.

**Anderson**

Fourth-year elective rotation for one month on medical wards at Kaiser Foundation Hospital in Oakland. Students will be integrated into the residency training program and will be involved in the care of hospitalized patients in an urban community prepaid health plan hospital. MEDICINE

**140.64. Cardiology—UC.** (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Medicine 110.

**D. Perloff, Scheinman**

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

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

**Holmes**

Students assigned to teams with first- and second-year residents, rounds with attending faculty, participation in daily conferences. Emphasis on pathophysiology of disease processes, management of acute medical problems. Refine skills in history-taking, physical examination, write-ups, presentations, techniques of diagnostic procedures. MEDICINE

**140.68. Infectious Disease—VMC & VAF.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Libke**

Management of common and unusual infectious diseases. May include use of anti-microbials in presence of impaired renal or hepatic function, treatment of infection in immunologically compromised host, etc. Participation in patient evaluation, treatment follow-up, ward rounds, conferences. Microbiology laboratory can be arranged. MEDICINE

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

**Grayson**

Participation with housestaff in patient care on CCU, ICU, medical wards, outpatient clinics. Introduction to invasive and non-invasive diagnostic procedures, techniques of management in care of hospitalized and ambulatory patients. Attend ECG interpretations, CCU rounds, consults, and teaching conferences. MEDICINE

**140.70. Hematology, Oncology—VAF-VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Fourth-year standing and Medicine 110.

**Stolberg**

Students participate in the work-up of hospitalized patients and follow up progress of patients in specialty clinics seen in consultation by hematology oncology staff. Clinical experience is augmented by reading program, slide review sessions, tumor board meetings and specialty conferences. MEDICINE

**140.71. Pulmonary Disease—VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.

**Lohne, Hirasuna**

Evaluation and management of adult patients with respiratory diseases, supervised by housestaff and faculty, Pulmonary Medicine section. Emphasis on physical examination of chest, interpretation of X-ray, arterial blood gases, pulmonary function studies. Gain

familiarity with respirators and other aspects of respiratory care. MEDICINE

**140.73. Rheumatology & Immunology—SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**N. Lane, H.D. Perez**

Students will be assigned inpatients and outpatients for work-up and management under the supervision of fellows and attending physicians. Students also will participate in clinical rounds, clinical conferences, research seminars and journal clubs. MEDICINE

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

**Feigenbaum**

Acting internship at this urban community prepaid health plan hospital. Students 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

**140.79. Inpatient Medicine—STM.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110.

**Lemesh**

The student, teamed with a resident, will evaluate and share in the care of patients admitted to a community based hospital. Students will take call, attend teaching rounds and conferences; will attend clinic one afternoon per week. MEDICINE

**140.80. GI and Liver Diseases—VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.

**Holmes, Arora, Peters**

Students will become part of the GI-Liver team. In addition to basic patient evaluation, they will participate in the broad range of diagnostic and therapeutic endoscopic procedures. Participation in an active ambulatory clinic adds to the variety of patients seen. MEDICINE

**150.01. Research in Medicine.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of faculty member in

charge of student's research project and approval of third- and fourth-year coordinator.

**Papadakis**

Students continue previously initiated research projects under the guidance of faculty members. MEDICINE

**150.03. Cancer Viruses.** (1.5 per week) Su, F, W, Sp. Prerequisite: Basic course in microbiology.

**J. A. Levy**

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

**160.04. Med Science & Clinical Problems.** (0-1) F, W, Sp. Lecture 1 hour. Seminar 1 hour.

**D. Cox**

The course is designed to develop a historical perspective of what and how clinical problems can be approached in a basic medical research laboratory and to develop, by example, an analytical approach relating basic medical research to clinical medicine. MEDICINE

**160.06. Chronic Fatigue Syndrome: Fact or Fiction?** (1) W. Lecture 1 hour.

**Hughes, Rest**

This class will meet once a week, and will cover the CDC Case definition, history, epidemiology, diagnosis, treatment, research update, resources, socio-political context, doctor-patient interaction, etc. Guest lecturers will be used. 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 and Update.** (2) W. Lecture 2 hours.

**Hollander**

A preclinical, multidisciplinary overview curriculum surveying the epidemic of AIDS and the human immunodeficiency virus. Basic and clinical sciences and social/psychosocial topics are included. Other than a panel of persons with HIV-AIDS, the course format is by lecture. MEDICINE

**170.04. EKG Fundamentals—VA.** (1) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. Lecture 1 hour.

**M. Goldman**

Instruction in basic electrophysiologic principles and interpretation of electrocardiograms. MEDICINE

**170.05. EKG Interpretation.** (1) W. Prerequisite: Medicine 131A. Lecture 1 hour.

**Rapaport**

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

**170.09. Current Topics in Medical Science.** (2) F, W, Sp. Seminar 2 hours.

**Cox**

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. Introduction to Occupational Medicine.** (1) F Seminar 1 hour.

**Balmes**

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. MEDICINE

**170.11. Introduction to Environmental Medicine.** (1) W. Seminar 1 hour.

**Balmes**

Introductory course in health issues related to the environment. MEDICINE

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

**Luxenberg**

Course covers the physiology and psychology of normal aging and health care problems of the elderly, including functional status and cognitive impairment. Use of medications, health care policies, multidisciplinary geriatric health care teams, and ethics are reviewed. MEDICINE

**170.15. Art and Science of Health Services Research.** (2) F Prerequisite: Graduate training in applied health services research, e.g., public health, medical sociology, health economics, preventive medicine.

**Luft**

This course covers issues from the design and writing of grant proposals to choice of data, analytic techniques, presentation of results, publication strategies, and project management. Students should be involved in a dissertation or major project. MEDICINE

**170.18. Principles of Occupational Health.** (2) Sp. Seminar 2 hours.

**Balmes**

This course presents an overview of occupational health, with seminars and site visits. MEDICINE

**180. Industrial Toxicology.** (2) § F Prerequisite: Consent of instructor. Lecture 2 hours.

**Osterloh**

To provide understanding of basic principles of toxicology as related to work environment and workers' health. Emphasis is on chemicals including heavy metals and pesticides, methods of surveillance, principles of acute and chronic toxicity testing. Includes lectures, student presentations, and discussion. MEDICINE

**180.02. Theory of Biomedical Ethics.** (1-2) § W. Prerequisite: Graduate standing and consent of instructor. Seminar 2 hours. Paper required for 2 units.

**Atchley**  
A brief introduction to Bioethics, followed by a case-oriented approach to the understanding and use of those basic bioethical principles necessary to understand and resolve frequently encountered bioethical dilemmas in medical practice. MEDICINE

**188.01. Nation's Health.** (2) § F,W, or Sp. Lecture 2 hours.

**P. Lee and Staff**

Course will address health policy issues related to the health status of the population, the determinants of health, and health care. Jointly offered with Sociology 160 and Sociology 220. MEDICINE

**188.03. Economics of Health.** (2) § F,W, or Sp. Lecture 2 hours.

**P. Lee, Luft**

Basic economic concepts and tools as applied to problems in the health care system. Topics to be covered include measurement of output; demand for care, insurance, and incentives; supply of physicians' services; health sector planning; and an alternative view of the system. MEDICINE

**198. Supervised Study.** (1-5) Su, F,W, Sp. Prerequisite: Consent of instructor preceptor and approval of third- and fourth-year coordinator.

**Papadakis**

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

**199. Laboratory Project.** (1-5) Su, F,W, Sp. Prerequisite: Consent of instructor preceptor and approval of third- and fourth-year coordinator.

**Papadakis**

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

**200. Health & Aging.** (2-4) § W, Sp. Prerequisite: Graduate standing. Consent of instructor. Lecture 2-4 hours.

**P. Lee, H. Lipton**

Examines the health status of the aged in the U.S. in light of relevant biological, behavioral, sociocultural and environmental factors. Social, cultural and 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

**411A. Introduction to Molecular Genetics.** (4) Su. Lecture 3 hours. Conference 1 hour.

**Gitschier, Ganem, Parslow**

A general overview of molecular genetics, aimed principally at fellows in clinical departments. MEDICINE

**411B. Introduction to Cell Biology.** (4) Su. Lecture 3 hours. Conference 1 hour.

**Kelly**

A brief introduction to contemporary cell biology for clinical fellows. MEDICINE

**411C. Laboratory Techniques.** (3) Su. Prerequisite: Medical fellows in School of Medicine. Lab: 40 hours/week for 2 weeks.

**Welch, Pytella**

A short, but intensive, laboratory course in modern laboratory techniques of cell and molecular biology meant to facilitate transition of medical fellows beginning their rotation in basic research laboratories. MEDICINE

**420. Intro to Structural Biology.** (3) Sp. Lecture 3 hours.

**Cohen, Kuntz, Craik**

Introduction to structural biology. Focus on understanding protein structure and how protein structure is determined. Implications of protein structure for function. MEDICINE

**440. Postdoc Seminar in Health Economics.** (4) Sp. Restricted to postdoctoral fellows in RWJ Clinical Scholars Program & NIMH-funded Clinical Sciences Research Training Program. Seminar 4 hours.

**Henke**

Provides survey of economic methods, models, and empirical findings related to the health care sector. Students will learn to use economic techniques to examine health care problems and policy options. MEDICINE

**450. Clinical Medicine.** (10) Su, F,W, Sp.

**SFGH H. Williams, UC R.K. Root**

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

**451. Clinical Medicine—MZ.** (10) Su, F,W, Sp.

**Woeber**

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

**452. Clinical Medicine.** (1.5 per week) Su, F,W, Sp. VAF Rosenstiel

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

**460. Clinical Primary Care.** (1.5 per week) Su, F,W, Sp.

**Crede and Staff**

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

**461. Clinical Primary Care.** (1.5 per week) Su, F,W, Sp.

**Crede and Staff**

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

**490. Clinical Medicine.** (1.5 per week) Su, F,W, Sp. SFGH H. Williams

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

**491. Clinical Medicine.** (1.5 per week) Su, F,W, Sp. SFGH H. Williams

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

**495. Clinical Medicine.** (1.5 per week) Su, F,W, Sp. UC R.K. Root

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

## Microbiology and Immunology

**100A. Medical Immunology.** (2) Sp. Prerequisite: Biochemistry 100A-B. Lecture 2 hours. Equivalent to Microbiology 121 and 190A.

**W. Levinson**

Lectures on the fundamentals of immunology. Small group seminars on patient-related problems in this field. MICROBIOL

**100B. Medical Microbiology.** (6) F Prerequisite: Biochemistry 100A-B. Lecture 4 hours. Lab 3 hours. Conference 1 hour. Equivalent to Microbiology 190B.

**W. Levinson**

Pathogenesis of infection by bacteria, fungi and viruses. Essentials of diagnosis, treatment, and epidemiology of diseases. Laboratory demonstrations and exercises of essential medical skills. Problem-solving exercises and small group seminars involving clinical cases. MICROBIOL

**110. Immunology in Pharmacy.** (2) Sp. Prerequisite: Biochemistry 120A-B. Required course for students in the School of Pharmacy. Lecture 2 hours.

**Brodsky**

Lectures on the fundamentals of immunology, drugs in hypersensitivity and immunosuppression. MICROBIOL

**116. Microbiology and Immunology in Dentistry.** (6) W. Lecture 4 hours. Lab 6 hours.  
**Felton, DeFranco**

Comprehensive presentation of microorganisms including bacteria, fungi, viruses; fundamentals of 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.** (4) Sp. Prerequisite: Successful completion of all first-year required coursework. Lecture 3 hours. Lab 3 hours.

**Lucero**

Fundamentals of microbiology for pharmacy students with emphasis on mechanisms of disease production by bacteria, fungi, and viruses. Morphology, physiology, and immunology techniques used in laboratory diagnosis of selected bacterial diseases. Includes exercises in antibiotic susceptibility, disinfection, and sterility. MICROBIOL

**150.01. Microbiology Research.** (1.5 per week) Su, F, W, Sp. Prerequisite: Microbiology 100A and 100B and consent of instructor.

**Staff**

Research in microbiology; block elective for fourth-year students. MICROBIOL

**170.01. Medical Problem-Solving.** (2) F, W, Sp. First-year medical students only. Conference 2 hours. Library research 2 hours.

**W. Levinson**

Small-group medical problem-solving conference using real clinical cases as a springboard for exploration of underlying issues in basic and clinical sciences. The emphasis is on pathophysiological reasoning, independent learning, and working in a group. Teaching is Socratic and minimally directive. MEDICINE

**170.02. Case of the Week.** (1) F. Prerequisite: Microbiology 100B concurrently. Seminar 1 hour.

**W. Levinson**

Infectious disease cases are discussed in a problem-solving format. 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 epidemi-

ology 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 1993-94.

**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. Molecular and Cellular Immunology.** (3) § W. Prerequisite: General knowledge of immunology. Lecture 3 hours.

**Brodsky**

Topics to be covered: hematopoiesis, structure and genetics of immunoglobulins, lymphocyte surface molecules, T cell receptors, signal transduction, antigen presentation, MHC restriction, tolerance, T cell effector mechanisms, lymphocytes, and autoimmunity. MICROBIOL

**208. Molec Biology of Animal Viruses.** (1.5) § 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 1993-94.

**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.** (2) § Sp. Conference 2 hours.

**Goodman**

Small group tutorial in which topics and correlative reading will be selected for discussion with individual faculty members. MICROBIOL

**210. Research Problems in Mycology.** (1-5) § F. Prerequisite: Microbiology 100A, 100B and 206. Lab and conference.

**Halde**

Participation in research problems in a mycology laboratory. This is not a structured laboratory methods

course, but rather a practical research experience involving basic research with pathogenic fungi. MICROBIOL

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

**Staff**

Lab research for one quarter with a departmental faculty member to familiarize new graduate students with experimental approaches to microbiological or immunological problems of current interest. MICROBIOL

**220. Selected Topics Seminar.** (1) § F, W, Sp. Seminar 1 hour.

**Staff**

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

**221. Graduate Research Seminar.** (1) § Sp. Seminar 1 hour.

**Staff**

Seminar series in which graduate students present their thesis research. MICROBIOL

**250. Research.** (1-8) § F, W, Sp.

**Staff**

MICROBIOL

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

**Staff**

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

## Neurological Surgery

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

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

**C.B. Wilson**

The student will become a member of the housestaff, attending ward rounds, working up patients, assisting at operations, and taking night call on rotation with a resident. Limited to one student per hospital. NEURO SURG

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

**Pitts, P. Weinstein**

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

**150.01 Research in Neurosurgery.** (1-5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor and department. Passing grade in NB Examination Part 1. 40 hours per week.

**Staff**

Research project under the direction of a member of the faculty. Extensive background reading will be required and discussion of important topics will be held at weekly laboratory and program project research conferences. NEURO SURG

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

**Staff**

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

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

**Pitts**

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

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

**C.B. Wilson**

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

**402. Clinicopathological Conference.** (2) Su, F, W, Sp.

**R. Davis, C.B. Wilson**

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

**403. Literature Review.** (1) Su, F, W, Sp.

**Pitts**

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

**450. Clin Neurological Surgery—UC.** (10) Su, F, W, Sp.

**C.B. Wilson**

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

**451. Clin Neurological Surgery—SFGH.** (10) Su, F, W, Sp.

**Pitts**

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

**453. Clin Neurological Surgery**—VA. (10) Su, F, W, Sp.

**P. Weinstein**

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

**490. Clin Neurological Surg**—SFGH-VA. (1.5 per week) Su, F, W, Sp.

**Pitts, P. Weinstein**

Interns rotate through neurological surgery wards. Under the supervision of the attending staff, they are responsible for the care of patients, including history-taking, neurologic examinations, laboratory tests, diagnostic procedures, and consultation. NEURO SURG

## Neurology

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

**110. Neurology-Neurosurg Core Clkshp.**

(1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. Concurrent enrollment in Psychiatry 135.

**Layzer**

Students are assigned patients for study under supervision of attending and resident staffs. They attend work rounds, attending rounds, grand rounds, conferences and lecture-seminars, emphasizing diagnosis and management of common clinical problems and psychiatric aspects of neurology. NEUROLOGY

**140.01A-B-C. Advanced Clinical Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110 and fourth-year standing. **A:** UC. **B:** SFGH. **C:** VA.

**UC Hauser, SFGH Simon, VA Sharp**

Students serve as acting interns on the inpatient 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.

**Hauser**

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

**140.03. Outpatient Clinical Neurology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor.

**Engstrom**

Fourth-year students serve as clinical clerks in the outpatient clinics. Emphasis is placed on developing neurological history and examination skills applicable to outpatient problems (i.e., Parkinson's disease) likely to confront the non-neurologist. 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

**140.06. Advanced Neurology Clerkship**—VA. (1.5 per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor.

**F. Sharp**

Students serve as clinical clerks in the outpatient clinics and on the consultation service. Attendance at departmental clinical rounds, seminars, and conferences is required. Prior arrangements must be made. NEUROLOGY

**140.07. Neurology Clerkship**—Fresno. (1.5 per week) F, W, Sp. Prerequisite: Neurology 110.

**Margolin, Felmus**

Advanced students will have the opportunity to broaden and enrich their clinical neurology experience and expertise. Opportunity will be given to participate in didactic and case conference presentations. The opportunity exists for subspecialty clinical experience (e.g., behavioral neurology, neuromuscular disease). NEUROLOGY

**140.08. Pain Mechanisms and Management**—UC. (1.5 per week) Su, F, W. Prerequisite: Neurology 110 and consent of instructor. Enrollment limited.

**Fields, Barbaro, McKay**

Diagnosis, medical and surgical management of patients with chronic pain. Students will participate in conferences and rounds of the multidisciplinary pain service at UCSF's Parnassus campus. Direct patient contact will be under supervision of attending physicians (neurologists, neurosurgeons, anesthesiologists, psychiatrists). Students will learn to do sensory examinations and simple local anesthetic nerve blocks. They will learn pain management for acute post-operative patients, cancer pain, neuropathic pain, headache, low back pain. They will be expected to identify major psychological aspects of acute and chronic pain. NEUROLOGY

**150.01. Neurology Research.** (1.5 per week) Su, F, W, Sp. Prerequisite: Anatomy 103.

**Hauser**

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**

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

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

**Hauser 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.

**Hauser 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.

**Hauser, D. Greenberg, F. Sharp**

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.

**Hauser**

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.

**Hauser**

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 Sharp**

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.

**Hauser**

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.

**Olney**

Students learn the application of electromyography in the diagnosis of patients seen in the wards and in the outpatient clinic, with individual instruction as required. NEUROLOGY

**456. Clinical Neuropathology.** (1.5 per week) Su, F, W, Sp.

**Malamud**

Residents spend three months or more performing supervised autopsies and pathologic studies of brain, nerve and muscle. NEUROLOGY

**458. Clinical Pediatric Neurology.** (1.5 per week) Su, F, W, Sp.

**Berg**

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

**460. Clinical Neuro-Ophthalmology.** (4.5) Su, F, W, Sp.

**W. Hoyt**

Residents participate in clinical evaluation of patients in preparation for rounds. Clinical teaching in neuro-ophthalmology. NEUROLOGY

## Neuroscience

**117. Neurobiology.** (6) Sp. Prerequisite: First-year Dentistry standing. Lecture 5 hours. Lab 2 hours.

Conference 1 hour.

**Sargent, Wentworth, Christie, Steller**

Structure and function of the nervous system. The course will cover the fundamentals of neurophysiology and the organization of the nervous system. Emphasis will be placed on the oral cavity. STOMATOL

**156. Neurobiology.** (6) Sp. Prerequisite: First-year Dental Hygiene standing. Lecture 5 hours. Lab 2 hours. Conference 1 hour.

**Sargent, Wentworth, Steller**

Structure and function of the nervous system. The course will cover the fundamentals of neurophysiology and the organization of the nervous system. Emphasis will be placed on the oral cavity. STOMATOL

**201. Basic Concepts in Neuroscience.** (6) § F. Lecture 4 hours. Conference 2 hours.

**L. Jan, Y.-N. Yan**

An interdisciplinary introduction to fundamental aspects of nervous system function. Course emphasizes the ionic basis of neuronal signaling, neurochemistry, the cell biology of the neuron, and mechanisms of neuronal integration. PHYSIOLOGY

**215. Laboratory Rotation.** (4) § F,W, Sp. Prerequisite: Consent of instructor. Lab 12 hours.

**Reichardt**

A laboratory rotation course to familiarize new departmental graduate students with various approaches to neurobiological research. PHYSIOLOGY

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

**Z. Hall**

Topic in neurobiology is selected such as development, anatomy and physiology of the visual system, biochemistry of membranes. Pertinent papers from the recent literature are read and discussed. Each student must participate regularly and present one seminar per quarter. PHYSIOLOGY

**222. Advanced Topics in Neurochemistry and Molecular Neurobiology.** (3) § F. Lecture 11 hours. Seminar 2 hours.

**Mobley, Levine**

Lectures and critical discussion of current research on neurotrophic factors, their receptors and molecular basis of neuronal signal transduction. PHYSIOLOGY

**223. Developmental Neurobiology.** (3) § W. Prerequisite: Neuroscience 201 and consent of instructor. Lecture 3 hours.

**Reichardt, Y-N. Jan, L. Jan, J. LaVail**

Course covers important areas of nervous system development with emphasis on molecular, genetic, and cellular approaches. Much of the course will focus on recent studies using nematodes, *Drosophila*, leeches, and zebra fish. PHYSIOLOGY

**225. Neurobiology of Disease.** (3) § Sp. Prerequisite: Neuroscience 201 and consent of instructor. Seminar 3 hours.

**Mobley, Fields, Rubenstein**

Seminar format with students reading and presenting papers in the current literature of neurobiological

disease. Emphasis will be on the physiological and molecular bases of disease. PHYSIOLOGY

**230. Biophysics of Membrane Excitability.** (3) § W. Prerequisite: Neuroscience 201 & consent of instructor. Seminar 3 hours.

**Lansman**

Course is designed to acquaint students with analytical methods used in studying excitation in nerve and muscle. Topics include: review of electrical fundamentals, Laplace transforms, linear cable theory, thermodynamic and kinetic descriptions of electrodiffusion, voltage clamp methods, and Hodgkin-Huxley analysis of nerve excitation. PHYSIOLOGY

**231. Synaptic Mechanisms in Peripheral & CNS.** (3) § F. Prerequisite: Neuroscience 201. Seminar 3 hours.

**Nicoll, Malenka**

This is primarily a reading course in which recent papers on various aspects of synaptic pharmacology and plasticity in the CNS will be discussed in depth. PHYSIOLOGY

**240. Advanced Topics in Integrative Neurobiology: The Vertebrate Retina.** (3) § W. Prerequisite: Neuroscience 201. Seminar 3 hours.

**Steinberg, Copenhagen**

Selected topics in the physiology of the vertebrate retina. Emphasis on the main problem areas of current retinal research as studied by electrophysiological and pharmacological methods. Study of the retina following the path of signal processing from photoreceptor to outer plexiform layer, inner plexiform layer, and the ganglion cell. PHYSIOLOGY

**242. The Auditory System** (3) § F. Lecture 3 hours.

**Merzenich**

Course will review in lectures, laboratory demonstrations, and in discussions the state of understanding the peripheral and central nervous system processes underlying hearing and speech perception. PHYSIOLOGY

**243. Somatosensory Systems and Pain.** (3) § F. Prerequisite: Neuroscience 201 and consent of instructor.

**Fields, Merzenich, Levine, Ralston**

This is predominantly a lecture and discussion format course. The course will examine the neural basis of somatic sensation including pain and pain modulation. A general theme will be the correlation of information derived from pharmacology, anatomy, physiology, behavior and human studies. Clinical problems will be reviewed insofar as they illustrate important principles or gaps in our understanding of the neurobiology of somatosensory systems and pain. PHYSIOLOGY

**244. Motor Systems in Mammals.** (3) § Sp. Prerequisite: Neuroscience 201 and consent of instructor. Seminar 3 hours.

**Lisberger**

Through readings from the literature and background lectures by the instructor, we will survey both classical

and current approaches to understanding the control of motor activity in mammals. PHYSIOLOGY

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

**Stryker, Malenka**

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

**246. Neuroendocrinology.** (1.5) § Sp. Prerequisite: Neuroscience 201 or consent of instructor. Lecture 1 hour. Seminar 2 hours.

**Dallman, Weiner**

Lectures and critical discussion of current research on the hypothalamus and its relationship to vegetative behaviors. Topics include the neural bases and integration of circadian rhythms, hormone secretion, feeding, drinking, and sexual behaviors. PHYSIOLOGY

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

**Staff**

PHYSIOLOGY

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

**Staff**

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

## Nursing

**140. Integrated Sciences.** (3) F. Lecture 3 hours.

**M. Engler**

Course focuses on microbiological concepts and chemical principles essential to nursing practice. PHYSIOLOGY

**141. Anatomy and Physiology.** (6) Su. Lecture 5 hours.

**B. Peterson**

This introductory course integrates human anatomy and physiology of the major organ systems and emphasizes the intimate relationship between structure and function. The course provides the foundation needed to understand human responses to wellness and illness. PHYSIOLOGY

**142. Introduction to Nursing.** (11) Su. Lecture 3 hours. Patient contact 24 hours.

**C. West**

Course explores the concepts of health and illness and role of the professional nurse. Focuses on using the nursing process in care of persons across the adaptation and developmental continua. Concurrent laboratory designed to develop skills and knowledge common to the nursing care of adults. PHYSIOLOGY

**143. Effective Communication.** (3) W. Lecture 3 hours.

**P. Underwood**

Course reviews selected theories of human interaction and presents principles and techniques of effective communication as they relate to establishing and maintaining a helping relationship. Students use laboratory experience to develop skills in communication and interaction. MENT HLTH COMADM

**144. Nursing Care of Med-Surg Patients.** (14.5) F. Prerequisites: N141, N142. Lecture 5 hours. Patient contact 28.5 hours.

**C. West**

Course focuses on nursing assessment, diagnosis and care of adults with common medical-surgical conditions including problems common to the elderly. Clinical experiences are provided to allow (for development of pertinent knowledge and skills) application of content with clients. PHYSIOLOGY

**145. Pathophysiology.** (2) F. Prerequisites: N141, N142. Lecture 2 hours.

**S. Janson-Bjerklie**

Course provides understanding of disease and its treatment as the basis for nursing assessment and intervention. Major disease entities will be explored, utilizing a conceptual organization of the content. PHYSIOLOGY

**146. Parent-Child Nursing.** (7.5) W. Prerequisites: N140, N141, N142, N144, N145. Lecture 4 hours. Patient contact 10.5 hours.

**C. Kennedy**

This clinical course in the nursing care of children and families integrates theoretical concepts related to the management of pediatric patients in acute and ambulatory settings. Application of concepts of growth and development of the child and family is included. FAM HLTH

**147. Childbearing Families.** (7.5) W. Prerequisites: N140, N141, N142, N144, N145. Lecture 4 hours. Patient contact 10.5 hours.

**K. Lee**

Course focuses on biopsychological concepts forming the basis for normal childbearing events and application to clinical situations. Emphasis is on nursing assessment and management of the woman and fetus during antepartum and intrapartum periods, and new mother and infant during the first postpartum month. FAM HLTH

**148. Socio-Cultural Issues in Hlth, Illness.** (2) W. Prerequisites: N140, N141, N142, N144, N145. Lecture 2 hours.

**R. Staples**

Course focuses on significant socio-cultural variations in health and illness, prevention and care that make particular impacts on nursing practice in a variety of settings. Attention will be given to cultural diversity associated with ethnicity and social class. SOC BEH SC



**149. Psych/Mental Health Nursing.** (5.5) Sp. Prerequisites: N140, N141, N142, N143, N144, N145, N146, N147, N148. Lecture 3 hours. Patient contact 7.5 hours.

**P. Underwood, S. Ziehm**

Course presents theories of human behavior as they relate to function, alteration, and/or disruption of mental processes; reviews current knowledge related to nursing care, psychiatric treatment, and psychosocial rehabilitation of the identified mentally ill individual and his/her family. MENT HLTH COM ADM

**150. Community Health Nursing.** (8.5) Sp. Prerequisites N140, N141, N142, N143, N144, N145, N146, N147, N148. Lecture 4 hours. Patient contact 13.5 hours.

**A. Dingerson**

Course explores application of nursing, family, and community health theory in community health settings, focusing on assessing, diagnosing, planning, implementing, and evaluating community health nursing care with families, groups, and communities. General principles will be applied to specific vulnerable populations. MENT HLTH COM ADM

**151. Issues in Nursing.** (3) Sp. Prerequisites: N140, N141, N142, N143, N144, N145, N146, N147, N148. Lecture 3 hours.

**B. Roberts**

Course explores major issues and trends in contemporary nursing and health care delivery as they relate to nursing practice, education, and research. FAM HLTH

**152. Community Gerontological Nursing.** (1) Sp. Lecture 1 hour.

**L. Reif**

Course focuses on the elderly person in the community and factors which influence independence. Common problems found in the elderly will be discussed along with an introduction to appropriate assessment/management strategies. An overview of community services will be presented. PHYSIOL NURS

**181. Law and the Practice of Nursing.** (2) § Sp. Lecture 2 hours.

**D. Tennenhouse**

Survey of fundamental and critical current issues in law with respect to the theory and practice of nursing. Emphasis on legal contingencies encountered in the everyday practice of nursing in both hospital and community settings. PHYSIOL NURS

**187. Scientific Writing.** (1) § F,W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Enrollment limited.

**J. Grout**

Course reviews bibliographic search methodology, the style of scientific writing, American Psychological Association (APA) editorial format, and composition of the introductory paragraph. PHYSIOL NURS

**189. Survey of Human Sexuality.** (3) § Sp. Lecture 3 hours.

**T. Ayres**

Theories and concepts of femininity, masculinity, and sexuality throughout the life cycle. Exploration of the wide range of human sexual behavior. Content includes sexual response, common sexual dysfunction and therapy, masturbation, homosexuality, and sexuality in some health conditions. FAM HLTH

**197. Group Independent Study.** (1-5) SS1, SS2, F, W, Sp. Lab 3-15 hours.

**Staff**

Students collaborate in clinical investigation and study special problems related to nursing and health sciences under the direction of faculty. Students may select topics for study related to their area of interest.

**198. Supervised Study in Nursing.**

(1-5) § SS1, SS2, F,W, Sp. Prerequisite: Consent of instructor. Lab 3-15 hours.

**Staff**

Student conducts library research and does directed reading under supervision of a faculty member with approval of the chairperson of the department.

**199. Laboratory Project in Nursing.** (1-5) § SS1, SS2, F,W, Sp. Prerequisite: Consent of instructor. Lab 3-15 hours.

**Staff**

Student conducts a laboratory research project under direction of a faculty member with the approval of the chairperson of the department.

**201. Curriculum & Program Development.** (3) § F Prerequisite: Graduate standing or consent of instructor. Lecture 1 hour. Seminar 2 hours.

**N. Okamoto**

Course reviews educational principles, nursing models, and conceptual framework for curriculum and program development to enable students to analyze, critique, and develop curricula and programs for schools of nursing and health delivery systems. PHYSIOL NURS

**202A. Theory Development in Nursing.** (3-4) § F Prerequisite: Doctoral standing. Lecture 3 hours.

**A. Meleis**

Examines philosophically and analytically the nature of theory and relationship between philosophy, theory, and science. Provides knowledge and experience in all stages of theory development, exploration and critique of epistemological and historical ideas in nursing; scholarly exchange toward independent discovery. MENT HLTH COM ADM

**202B. Prototype Theories in Nursing.** (3-4) § W. Lecture 3 hours.

**J. Faucett**

Comparative study and critical analysis of major prototype theories from which conceptions of nursing are derived. Emphasis is placed on systems, symbolic interaction, developmental exchange, and adaptation level theories. MENT HLTH COM ADM

**202C. Theories & Conceptual Frameworks.** (3-4) § Sp. Prerequisite: Doctoral standing. Lecture 3 hours.

**A. Meleis**

Comparative study and critical analysis of major conceptual models and theories in nursing. Considers relationship congruency of models to prototype theories; system, interaction, developmental, adaptation level theories. Examines the implication of nursing theories and models for practice and research. MENT HLTH COMADM

**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 COMADM

**204. Issues in Hospice Care.** (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

**I. Martinson**

Course explores history, function, and models of hospice care. Supportive physical/psychosocial nursing interventions to promote symptom control and family coping during end-stage of life are covered with special emphasis on AIDS. Research, legal, ethical issues, and nursing implications are discussed. FAM HLTH

**205.01. Clinical Knowledge Development.** (4) § F Prerequisite: N202A. Lab 6 hours. Seminar 2 hours.

**P. Larson**

Course defines the nature of advanced clinical practice relevant to the area of focus in the doctoral program. Problems common to selected patients are explored. Phenomena are analyzed to develop knowledge for advanced nursing in clinical and administrative settings. PHYSIOL NURS

**205.02. Clinical Knowledge Development.** (4) § F Prerequisite: N202A. Lab 6 hours. Seminar 2 hours.

**I. Martinson**

Course defines the nature of advanced clinical practice relevant to the area of focus in the doctoral program. Problems common to selected patients are explored. Phenomena are analyzed to develop knowledge for advanced nursing in clinical and administrative settings. FAM HLTH

**205.03. Clinical Knowledge Development.** (4) § F Prerequisite: N202A. Lab 6 hours. Seminar 2 hours.

**P. Underwood**

Course defines the nature of advanced clinical practice relevant to the area of focus in the doctoral program. Problems common to selected patients are explored. Phenomena are analyzed to develop knowledge for advanced nursing in clinical and administrative settings. MENT HLTH COMADM

**206. Nursing Management of Adult Psych Cond.** (3) § F Prerequisite: N227 and N219 or equivalent, and consent of instructor. Lab 3 hours. Seminar 2 hours.

**P. Underwood**

Seminar is designed for graduate psychiatric nursing students to examine and discuss various theories and practice approaches to the nursing management of psychiatric conditions in adults. MENT HLTH COMADM

**207. Clin Nsg Physio.** (3-5) § SS1, SS2, Su, F,W, Sp. Prerequisite: Doctoral standing. Lab 3-9 hours. Seminar 2 hours.

**Staff**

Course is an advanced study of the theory and research in the care of patients with physiological disruption and/or illness. In-depth examination of patient problems, assessment and management in the student's selected specialty area. Seminar with clinical laboratory. PHYSIOL NURS

**208.01A. Concept Delineation in Physiological Nursing.** (3) § W. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.

**V. Carrieri-Kohlman**

Seminar describes and analyzes phenomena relevant to nursing from theoretical, clinical, and empirical perspectives. Related concepts of interest to nursing are selected from observations in clinical settings and delineated in relation to the selected phenomena. PHYSIOL NURS

**208.02A. Concept Delineation in Family Health Care Nursing.** (3) § W. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.

**Staff**

Seminar describes and analyzes phenomena relevant to nursing from theoretical, clinical, and empirical perspectives. Related concepts of interest to nursing are selected from observations in clinical settings and delineated in relation to the selected phenomena. FAM HLTH

**208.03A. Concept Delineation in Mental Health, Community, and Administrative Nursing.** (3) § W. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.

**Staff**

Seminar describes and analyzes phenomena relevant to nursing from theoretical, clinical, and empirical perspectives. Related concepts of interest to nursing are selected from observations in clinical settings and delineated in relation to the selected phenomena. MENT HLTH COMADM

**208.01B. Concept Measurement in Physiological Nursing.** (3) § Sp. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.

**P. Larson**

Seminar focuses on measurement of selected concepts and their clinical manifestations. Existing measures are examined from theoretical, clinical, and empirical perspectives when the need for new measures is identified. PHYSIOL NURS

**208.02B. Concept Measurement in Family Health Care Nursing.** (3) § Sp. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.

**Staff**

Seminar focuses on measurement of selected concepts and their clinical manifestations. Existing measures are examined from theoretical, clinical, and empirical perspectives when the need for new measures is identified. FAM HLTH

**208.03B. Concept Measurement in Mental Health, Community, and Administrative Nursing.** (3) § Sp. Prerequisite: N205.01 or N205.02 or N205.03. Seminar 3 hours.

**Staff**

Seminar focuses on measurement of selected concepts and their clinical manifestations. Existing measures are examined from theoretical, clinical, and empirical perspectives when the need for new measures is identified. MENT HLTH COM ADM

**208.03C. Social Support: Theory, Res & Meth.** (2-4) § W, Sp. Prerequisite: Doctoral standing. Seminar 2 hours. Independent study optional 3 or 6 hours for 3 or 4 units.

**S. Rankin**

Analysis of the literature relating social support to various health and adjustment outcomes with emphasis on conceptual and methodological issues. Students will develop a focused review of the social support literature relevant to their research and/or clinical interests. MENT HLTH COM ADM

**209. Comparative Research Designs.** (3) § F Prerequisite: Doctoral standing or by consent of instructor. Lecture 3 hours.

**M. Dodd, K. Lee**

Course critically analyzes the elements of qualitative and quantitative research designs set within the context of the research question to be asked and the existing knowledge in the area.

**210. Information Technology and Nursing Care.** (3) § Sp. Lecture 3 hours. Lab hours vary.

**S. Henry**

Course applies research from information technology and selected aspects of nursing care (diagnoses, nursing minimum data set, decision-making) in order to capture patient outcomes for program planning activities. 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

**211.03B. Community Health Research Critique.** (3) § Sp. Prerequisite: Consent of instructor,

with preference given to Community Health students. Seminar 3 hours.

**M. White**

Course is a critical analysis of the published literature in community health. Emphasis is on the appraisal of research design, conclusions and importance to community health nursing practice. MENT HLTH COM ADM

**211.04B. Death in Childhood Res Critique.** (3) § W. Prerequisite: Nursing 211A and consent of instructor. Seminar 3 hours.

**I. Martinson**

Critique of studies related to the professional management of death, childhood development of the concept of death, children's response to death in the family, death anxiety in fatally ill children, and impact of death of a child on the family. FAM HLTH

**211.05B. Critique: Studies in Family Health.** (3) § W. Prerequisite: N211A or equivalent or consent of instructor. Seminar 3 hours.

**S. Gortner**

Course is a critique of research addressing the family and its relationship to the health and illness of family members. Research considered classic in the field will be reviewed, as will contemporary research. FAM HLTH

**211.06B. Neuroscience Research Critique.** (3) § W. Seminar 3 hours.

**Staff**

This course presents the scholarly process of critiquing research in neuroscience nursing. The foci are: evaluation of the research process, assimilation of the scientific basis for this specialty, and examination of implications of empirical findings for neuroscience nursing. PHYSIOL NURS

**211.07B. Crit of Onc Nursing Studies.** (3) § W. Prerequisite: Consent of instructor. Seminar 3 hours.

**M. Dodd, P. Halliburton**

Course presents the scholarly process of critiquing published research in oncology nursing. Emphasis will be on evaluation of the research processes utilized by investigators, and the implications of empirical findings for oncology nursing practice. PHYSIOL NURS

**211.08B. Critique of Management Research.** (3) § W, Sp. Prerequisite: N211A or consent of instructor. Lecture 3 hours.

**S. Neidlinger**

The course provides a critical analysis of studies which examine organizational behavior and administrative practice. The emphasis is on attitudes, insights, and abilities crucial to appreciation, appraisal, and utilization of research in management. MENT HLTH COMADM

**211.09B. Research Critique: Critical Care.** (3) § W. Prerequisite: N211A. Seminar 3 hours.

**V. Carrieri-Kohlman**

Course critiques research studies related to the nursing assessment, its plan, and therapy of acutely ill patients with multi-system failure. Students will learn to

appreciate, evaluate, and integrate research findings into their clinical practice. PHYSIOL NURS

**211.10B. Critique: Studies in Child Health.** (3) § W. Prerequisite: N211A or equivalent or consent of instructor. Seminar 3 hours.

**I. Martinson**

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) § F Prerequisite: N211A or consent of instructor. Lecture 1 hour. Seminar 2 hours.

**J. Lipscomb**

Course is a critical analysis of studies exploring the relationship of the workplace to health of the worker. Emphasis is on appraisal of relevant scientific literature, identification of research methods, and development of research proposals in occupational health nursing. MENT HLTH COM ADM

**211.14B. Critique: Ment Hlth Outcome Studies.** (3) § W. Prerequisite: N211A or consent of instructor. Lab 3 hours. Seminar 2 hours.

**L. Chafetz**

Course will criticize outcome studies in psychosocial care of the chronically or severely mentally ill. The intent is to develop research consumerism, through promotion of attitudes, insights, and abilities necessary for critical evaluation and utilization of health-related research. MENT HLTH COM ADM

**211.20B. Critique: Studies in Perinatal Care.** (3) § W. Prerequisite: N211A or equivalent or consent of instructor. Seminar 3 hours.

**D. Affonso**

Course critiques research in perinatal health care with a focus on parents and neonates. Research considered classic in the field will be reviewed, as will contemporary research. FAM HLTH

**211.21B. Cardiopulmonary Res Critique.** (3) § W, Sp. Prerequisite: N211A or consent of instructor. Lecture 2 hours. Lab 3 hours.

**B. Drew**

Critique of cardiopulmonary research with the intent to develop research consumerism, with emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. PHYSIOL NURS

**211.23B. International/Cross-Cultural Nursing Research.** (3) § W, Sp. Prerequisites: N211A or doctoral admission. Seminar 2 hours. Conference 1 hour.

**J. Lipson**

Seminar focuses on critical analysis of studies in selected areas of international cross-cultural health and nursing. Emphasis is on high risk groups and situational stressors. MENT HLTH COM ADM

**211.24B. Institutional Care of the Aged.** (3) § W. Prerequisite: N211A. Seminar 2 hours. Field work 3 hours.

**J. Kayser-Jones**

Seminar focuses on critiquing research studies in the institutional care of the elderly using a theoretical, historical, and cross-cultural approach. PHYSIOL NURS

**211.25B. Research Critique: Trauma/Emergency.** (3) § W. Prerequisite: N211A. Seminar 3 hours.

**S. Janson-Bjerklie**

Course is a critical analysis of studies that explore assessment and management variables in emergency and trauma nursing. Emphasis is on the critique process related to studies for applicability to clinical practice. PHYSIOL NURS

**211.27B. Critique: Studies of Sick Children.** (3) § W. Prerequisite: N211A, or equivalent, or consent of instructor. Seminar 3 hours.

**M. Lynch**

Course critiques research addressing the complexities of care for the acute/critically ill child with prolonged and/or complex care needs. Classic and contemporary literature will be analyzed through the critique process. FAM HLTH

**211.28B. Critique: Studies in Nurse-Midwifery.** (3) § W. Prerequisite: N211A, or equivalent, or consent of instructor. Seminar 3 hours.

**J. DeJoseph**

Course critiques research addressing the childbearing family and its relation to nurse-midwifery practice. Research considered classic in the field will be reviewed, as will contemporary research. FAM HLTH

**211.29B. Critique: Studies in Women's Health.** (3) § W. Prerequisite: N211A, or equivalent, or consent of instructor. Seminar 3 hours.

**D. Taylor**

Course critiques research addressing women's health and health care across the life span. Research considered classic in the field will be reviewed, as will contemporary research. FAM HLTH

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

**N. Stotts**

Course provides the opportunity for students to apply research methods in the development of a research proposal. Students will address research of problems significant to their patient population. PHYSIOL NURS

**211.53C. Illness Management Research.** (3) § F, W, Sp. Prerequisite: N211A, or graduate course on research methods in social science, or consent of instructor. Lecture 2 hours. Lab 3 hours. Course may be repeated for credit.

**L. Reif**

Methods for conducting exploratory studies on social-psychological and organizational factors which affect the management of illness and delivery of health services. Problem identification, collection and analysis of data, and presentation of findings and policy implications of research are included. PHYSIOL NURS

**211.54C. Data-Gathering Methods.** (3) § W, Sp. Prerequisite: One course in research design. Seminar 3 hours.

**R. Slaughter**

Course will focus on selection and construction of data-gathering tools in nursing research. Validity, reliability and utility are discussed. Computer coding and conducting a pilot study are included. MENT HLTH COMADM

**212. Data Collection and Measurement.** (3) § W. Prerequisite: N209. Lecture 3 hours.

**S. Weiss, N. Stotts**

Course critically evaluates concepts underlying the validity, reliability, and appropriateness of data collection methods as a basis for their construction and use in qualitative and quantitative research.

**213. Advanced Nursing Practice Roles.** (2) § W. Restriction: Course is for second-year M.S. students. Consent of instructor is required for other students. Lecture 2 hours.

**P. Halliburton**

Course focuses on analysis of the content, scope, and issues of advanced nursing practice roles, using the context of role and organizational theory. PHYSIOL NURS

**214. Community-Based Long-Term Care.** (3) § W, Sp. Prerequisite: Graduate status or permission of instructor. Lecture 2 hours. Lab 3 hours.

**L. Reif**

Course analyzes empirical research and theory dealing with noninstitutional approaches to long-term care. Examination of patient characteristics and needs, models of service delivery, factors affecting service utilization, and nurses' roles in provision and management of community-based long-term care. PHYSIOL NURS

**215A. Health in the Community.** (3) § F Prerequisite: Consent of instructor. Lecture 3 hours.

**M. White**

Course explores major public health issues in the U.S. and worldwide that are important to community health nursing practice; identification of the theories, concepts, and methods used to measure, interpret, and understand the issues. MENT HLTH COM ADM

**215B. Health Planning for Communities.** (3) § W. Lecture 3 hours.

**C. Portillo**

Course explores analytical planning models applicable to community health services. Using the community as a basis, this methods course includes assessment, planning, intervention, and evaluation techniques. Emphasis is on application of nursing process while working with communities. 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.

**Martinson**

Course explores theory related to the psychosocial experiences of illness and hospitalization for the child and his family. Focus is directed to minimizing trauma and promoting growth. Concurrent practicum recommended. FAM HLTH

**218A. Phenomena Common to the Nursing Care of Ill or Injured.** (3-4) § F Prerequisite: N276.

Prior or concurrent enrollment in physiology or consent of instructor. Lecture 1 hour. Seminar 2 hours. Lab optional 3 hours for 4 units.

**N. Stotts**

Knowledge is organized around phenomena common to ill or injured individuals across the life span. Concepts such as stress, healing, clotting, infection, consciousness, pain and coping will be examined from a theoretical and clinical perspective. PHYSIOL NURS

**218C. Current Therapeutics.** (1-5) § F Prerequisite: Physiology, N218A and N218B. Seminar 1-5 hours.

**C. West**

Course investigates the theoretical basis of selected therapies commonly used with the ill or injured. Therapeutic aspects of interventions as well as side effects will be explored. Recent research will be used as the basis for discussion. PHYSIOL NURS

**218D. Illness or Injury Rehabilitation.** (2-3) § W. Prerequisite: Graduate standing, N218A and N218B. Seminar 2 hours. Lab optional 3 hours.

**C. West**

Course examines the theoretical basis for rehabilitation of patients following physical illness or injury. Nursing therapies which promote optimal adaptation and development are evaluated utilizing relevant research as a base. Clinical laboratory optional. PHYSIOL NURS

**218E. Trauma and Emergency Therapeutics.** (3) § F Prerequisites: N221.03 and N275. Seminar 3 hours.

**S. Janson-Bjerklie**

Course focuses on scientific basis of selected therapeutic interventions used in the care of trauma and emergency patients. Nursing interventions related to therapies will be evaluated and/or proposed. PHYSIOL NURS

**218.01B. Concepts in Cardiovascular Nsg.** (3) § W. Prerequisite: Consent of instructor. Cardiac physiology and pathophysiology. Seminar 3 hours.

**P. Skov**

Course analyzes the needs of cardiovascular surgical patients. Physiologic and pathophysiologic mechanisms and surgical interventions are explored. Issues in clinical management are discussed from the theoretical perspective, and compared and contrasted with clinical practice. PHYSIOL NURS

**218.02B. Concepts in Neuroscience Nursing.** (3) § W. Prerequisite: N218A. Lecture 3 hours.

**Staff**

Course explores phenomena which are commonly experienced by patients with a neurological diagnosis from a theoretical, scientific, and clinical practice perspective. Emphasis is on nursing interventions. PHYSIOL NURS

**218.04B. Concepts in Adult Medical Nursing.** (3) § W. Prerequisite: N218A. Seminar 3 hours.

**Staff**

Course analyzes the needs of the medical patient. Physiologic and pathophysiologic mechanisms and appropriate treatments are explored. Issues in clinical management are discussed from the theoretical perspective, and compared and contrasted with clinical practice. PHYSIOL NURS

**218.05B. Concepts in Oncology Nursing.** (2) § W. Prerequisite: N218A. Lab 2 hours, Seminar 1 hour.

**C. Miaskowski**

Course analyzes the needs of the cancer patient. Physiologic and pathophysiologic mechanisms are explored from the theoretical perspective and compared and contrasted with clinical nursing practice. PHYSIOL NURS

**218.06B. Concepts in Critical Care Nursing.** (3) § W. Prerequisite: N218A. Seminar 3 hours.

**C. West**

Course analyzes the needs of the critically ill patient. Physiologic and pathophysiologic mechanisms and appropriate treatments are explored. Issues in clinical management are discussed from the theoretical perspective, and compared and contrasted with clinical practice. PHYSIOL NURS

**218.07B. Concepts in Trauma & Emergency Nursing.** (3) § W. Prerequisites: N218A and N221.03. Seminar 3 hours.

**S. Janson-Bjerklie**

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

**219. Psychosocial Assessment.** (3) § Sp. 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-1) across diverse clinical areas and with clients throughout the life span. MENT HLTH COMADM

**220.01. Adv Sem in Nursing Research.** (3) § F,W, Sp. Prerequisite: Successful completion of the qualifying examination and/or consent of instructor. Seminar 3 hours.

**Staff**

This seminar guides doctoral students in the design and conduct of research in specialty areas in cross-cultural and international nursing and mental health and community nursing. MENT HLTH COMADM

**220.02. Adv Sem in Nursing Research.** (3) § F Prerequisite: Graduate nursing standing and completion of at least one research methods course. Restriction: Second-year graduate standing. Seminar 3 hours.

**S. Gortner**

A seminar which guides students in the design and conduct of research in specialty areas in family health care nursing. FAM HLTH

**220.03. Adv Sem in Nursing Research.** (3) § Sp. Prerequisite: Successful completion of the qualifying examination. Restriction: Doctoral-level course. Seminar 3 hours.

**V. Carrieri-Kohlman**

Seminar guides students in design and conduct of research in specialty areas in physiological nursing. PHYSIOL NURS

**221.01. Pathophysiology of Cancer.** (3) § Sp. Prerequisite: Admission to graduate program and graduate-level physiology of the cell. Audits by permission only. Lecture 2 hours. Seminar 1 hour.

**C. Miaskowski**

Theories of carcinogenesis, the natural history of representative cancers and the mechanisms of action of certain therapeutic agents will be discussed. The clinical relevance for nursing of the associated pathophysiologic changes will be emphasized. PHYSIOL NURS

**221.02. Cardiovascular Pathophysiology.** (3) § W. Lecture 3 hours.

**P. Skov**

Course is a study of pathophysiology, diagnosis, and treatment of major cardiovascular disorders that provide the basis for the nursing management of this population. Emphasis is on the acute phase of illness. PHYSIOL NURS

**221.03. Trauma and Emergency Pathophysiology.** (4) § Sp. Prerequisite: N275AB (Physiological Basis of Nursing). Lecture 4 hours.

**B. Bires**

Course focuses on pathophysiology of injury and emergent medical conditions. Exemplars of clinical states commonly seen in trauma and emergency care will be analyzed. PHYSIOL NURS

**221.04. Critical Care Pathophysiology.** (4) § Sp. Lecture 4 hours.

**V. Carrieri-Kohlman**

Course offers study of the multi-system effects of frequently occurring pathologic states in the critically ill. Emphasis is on major mechanisms and conse-

quences of the disorders which provide the basis for nursing assessment. PHYSIOL NURS

**222A. Principles of Nurse Midwifery.** (4) § F,W. Prerequisite: Enrollment in Nurse-Midwifery specialty. Lecture 3 hours. Lab 3 hours.

**L. Ennis, D. Anderson**

Course critically analyzes scientific principles underlying selected obstetric and gynecologic diagnostic and therapeutic procedures in the management of health care of women throughout the childbearing cycle. FAM HLTH—UCSD

**222B. Nurse Midwifery Management.** (4) § W, Sp. Prerequisite: Enrollment in Nurse-Midwifery specialty. Lecture 4 hours.

**V. Lops, S. Weiner**

Course expands the theoretical knowledge base of the normal physiology of pregnancy. Emphasis is placed on the intrapartum period with facilitation of normal processes and patient teaching. FAM HLTH—UCSD

**222C. Complex Probs in Nurse Midwifery.** (4) § Sp. Prerequisite: Enrollment in Nurse-Midwifery specialty. Lecture 4 hours.

**V. Lops, L. Ennis**

Course explores the theoretical concepts and principles applied to the management of pathophysiological and psychosocial issues complicating the birthing process. Issues of professional practice, adjustment to primary care role, and medical collaboration and consultation are considered. FAM HLTH—UCSD

**223. Mental Health and Aging.** (3) § F,W,Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

**C. Deitrich**

Course focuses on assessment and management of common mental health problems of the older adult. Factors contributing to mental health or illness, adaptive behaviors, specific psychopathologies, and the similarity of presenting features of physical and mental illness are explored. PHYSIOL NURS

**224. Pediatric Clinical Therapeutics.** (4) § F. Prerequisite: Course given in conjunction with N245 (Pediatric Critical Care Assessment). Lecture 4 hours.

**M. Lynch**

Course provides a conceptual approach to examine pathophysiological phenomena identified in the pediatric critical care population. The interrelationships of human responses, symptoms, processes, stressors, and interventions will be discussed specific to alleviating the phenomena identified in this population. FAM HLTH

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

**B. Drew**

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

**227A. Theories of Major Psychiatric Conditions.** (4) § F,W. Prerequisite: Consent of instructor. Seminar 4 hours.

**P. Underwood**

Course reviews major psychiatric conditions, outlined by the DSM-III-R, explores socio-cultural, psychological, and biological theories as dimensions in understanding the etiology, onset, course, treatment, nursing care, and outcome of selected conditions. MENT HLTH COMADM

**227B. Theories of Major Psych Conditions.** (4) § W. Prerequisite: Consent of instructor (N227A). Seminar 4 hours.

**P. Underwood**

Course reviews major psychiatric conditions, outlined by the DSM-III-R, explores socio-cultural, psychological, and biological theories as dimensions in understanding the etiology, onset, course, treatment, nursing care, and outcome of selected conditions. MENT HLTH COMADM

**228. Primary Prevention of CV Disease.** (2) § Su, F,W,Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**M. Engler, M. Engler**

Course critically analyzes data related to the primary prevention of coronary artery disease, sudden death, stroke. Major risk indicators and treatments for these diseases are reviewed. Guidelines for managing disease risk across the life span are provided. PHYSIOL NURS

**230A. Quality Assurance.** (3) § F Lecture 3 hours.

**S. Henry**

Course critically reviews strategies to design, monitor, and evaluate quality assurance programs. Theoretical linkages between QA and evaluation research are presented. MENT HLTH COMADM

**230B. Human Resources Development.** (3) § W. Lecture 3 hours

**S. Henry**

Strategies to design, implement, and evaluate human resource development programs are critically reviewed. Theoretical linkages among QA, human resource development, and evaluation research are presented. MENT HLTH COMADM

**230C. Health Services Evaluation.** (3) § Sp. Lecture 3 hours.

**W. Holzemer, S. Henry**

Course presents a patient outcome model for health services evaluation research. The contributions of patient/client, provider, and setting characteristics to individual and organizational outcomes are critically analyzed. MENT HLTH COMADM

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

**J. DeJoseph, J. Flanagan**

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

**232. Clinical Pharmacology.** (1-2). § Sp. Prerequisite: Consent of instructor. Lecture 1-2 hours.

**S. Echaves**

Course focuses on clinical application of pharmacology in the management of patients, including frequently prescribed drugs for the treatment of chronic diseases and minor acute illnesses across the lifespan. MENT HLTH COMADM

**233. AIDS: Primary Prevention.** (3) § Sp. Lecture 3 hours.

**C. Portillo**

Course focuses on the epidemiology and primary prevention of AIDS. Ethical and legal issues, access to care, and mental health issues are discussed. Emphasis is on teaching strategies for prevention with high-risk populations and those practicing high-risk behaviors. MEN HLTH COMADM

**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.

**M. Styles**

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 COMADM

**235A. Child Mental Health Assessment.** (2) § F. Lecture 2 hours.

**S. Weiss**

Course discusses assessment approach and diagnostic criteria for mental health problems occurring from infancy through adolescence. Child mental health status will be assessed across a spectrum of disorders through case studies. MENT HLTH COMADM

**235B. Child Mental Health Counseling II.** (2) § W. Prerequisite: N235A. Seminar 2 hours.

**S. Weiss**

Course covers cognitive, behavioral, and gestalt theories of child mental health counseling. Theories of

group counseling will also be examined, including methods based on play, activity, and interview. MENT HLTH COMADM

**236. Expectant Parent Group Education.** (2-3) § Sp. Prerequisite: Consent of instructor. Lab 3 hours. Seminar 2 hours.

**D. Affonso**

Theoretical sessions are related to methodology and techniques of conducting expectant parent education groups. Exploration of content relevant to concerns of expectant parents encompassing childbearing and early child rearing experiences. Concurrent practicum recommended, but not required. FAM HLTH

**237. Health Assessment through Life.** (3-4) § F, Sp. Prerequisite: Department of Family Health Care Nursing students. Approval by F.O.R. Concurrent practicum required. Lecture 2-3 hours. Lab 3 hours.

**L. Ennis**

Course presents theoretical principles of health assessment throughout the life cycle. Areas to be covered include methodologies of data gathering and data analysis essential to comprehensive health assessment of all groups. Laboratory experience provides application and integration of theory. FAM HLTH

**238A. Infant & Child Development.** (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.

**Staff**

Course covers major theories and research findings dealing with social, emotional, and cognitive development of the child from birth through school age. FAM HLTH

**238B. Adolescent Development.** (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours.

**M. Savedra**

Course explores relevant theory, literature, and research findings dealing with normal development during the adolescent period. FAM HLTH

**239. Environ Issues in Psych Rehab.** (3) § Sp. Lecture 2 hours. Lab 3 hours.

**L. Chafetz**

Course provides an overview of rehabilitative, residential, and interpersonal environments for the chronically or severely mentally ill. It considers properties of mental health programs, housing, and personal networks which appear to promote rehabilitation goals and overall quality of life. MENT HLTH COMADM

**240A. Family Primary Care I.** (5) § Sp. Prerequisite: Enrollment in Family Nurse Practitioner Program and N237. Lecture 5 hours.

**S. Carroll**

Theories, concepts and knowledge for comprehensive assessment and management of common health and illness conditions throughout the life cycle will be presented. Emphasis will be on primary care of the family unit. FAM HLTH

**240B. Family Primary Care II.** (4-5) § F. Prerequisite: N240A. Lecture 4-5 hours.

**B. Trinlisti**

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: N240AB. Lecture 4-5 hours.

**B. McLain**

Course presents theories, concepts, and knowledge for comprehensive assessment and management of special problems in family primary care. Emphasis will be on care of the family unit. FAM HLTH

**241A. Role Development in Primary Care.** (2) § W. Prerequisite: Concurrent primary care clinical residency or consent of the instructor.

**J. Saxe**

Course offers the student nurse practitioner the opportunity to discover strategies for promoting role development and advancing the nursing profession in the primary care area. MENT HLTH COMADM

**241B. Role Development in Primary Care.** (2) § F. Prerequisite: Consent of instructor and concurrent enrollment in primary care clinical residency. Lecture 2 hours

**J. Saxe**

Course offers the student nurse practitioner the opportunity to discover strategies for promoting role development and advancing the nursing profession in the primary health care arena. INTERDEPARTMENTAL

**241C. Collaborative Role Development.** (1) § W. Prerequisite: Successful completion of N241B (Role Development in Primary Care) and concurrent primary care clinical residency. Lecture 2 hours every other week.

**S. Carroll, J. Saxe**

Bi-weekly seminars deal with critical analyses of issues and research related to collaboration in primary care. Emphasis is on joint practice frameworks and practice management, marketing the nurse practitioner role, and legal/professional issues. MENT HLTH COMADM

**242A. Long-term Care of Older Adults.** (3) § Sp. Prerequisite: N257

(Biology of Aging) or consent of instructor. Seminar 3 hours.

**G. Dowling**

Course focuses on nursing management strategies geared toward maximizing function and minimizing risk factors in older adults. Emphasis is on the scientific basis for advanced nursing practice with this population including the role of the interdisciplinary team. PHYSIOL NURS

**242B. Care of Acutely Ill Older Adults.** (3) § F. Prerequisite: N257 (Biology of Aging) or consent of instructor. Seminar 3 hours.

**M. Wallhagen**

Course addresses major phenomena common in the acutely ill older adult and focuses on the scientific

basis for nursing management, the role of the multidisciplinary team in case management, and ethical issues that influence decision-making. PHYSIOL NURS

**242C. Nursing in Managed-Care Systems.** (3) § W. Prerequisite: Part of a 3-course sequence, but may be taken alone or out-of-sequence, with permission of instructor. May also be taken as elective. Permission of instructor if not taken with N242A&B. Seminar 3 hours.

**L. Reif**

Course examines managed-care systems that deliver health and long-term services to the elderly. The course will explore the distinctive features of these new systems, and their impact on nursing roles and functions. PHYSIOL NURS

**243.01. Family Therapies** (3) § W. Lecture 3 hours.

**S. Weiss**

Course offers a critical examination of theories guiding therapeutic work to enhance family mental health. Diverse theoretical perspectives for assessment and intervention with troubled families will be analyzed, including structural, strategic, and communication frameworks as well as psychoeducation. MENT HLTH COMADM

**243.02. Trends in Group Psychother Modalities.** (2) § W, Sp. Prerequisite: Psychiatric/Mental Health students or consent of instructor. Seminar 2 hours.

**B. Furuta**

Students will examine and discuss theories and practice of various group modalities in current use. MENT HLTH COMADM

**244A. Res Sem: Indiv, Fam, or Comm.** (2-4) § F. Prerequisite: Completion of first-year requirements for the Ph.D. program in nursing or consent of instructor. Lecture 2 hours, Independent study 0-6 hours.

**D. Weekes**

Nursing 244ABC prepares students for original research through consideration of content methods and issues in an area of specialization. Nursing 244A focuses on evaluation of a content area and generation of research questions within it. MENT HLTH COMADM

**244B. Res Sem: Indiv, Fam, or Comm.** (2-4) § W. Prerequisite: N244A or consent of instructor. Lecture 2 hours, Independent study 0-6 hours.

**K. Lee**

Nursing 244ABC builds upon prior research content to prepare students to develop and defend a plan for original research. Nursing 244B focuses on identification of research questions and criticism of design/methods in the students' areas of interest. FAM HLTH

**245. Primary Health Care I: Health Maintenance & Promotion.** (2) § W. Prerequisite: N270 and concurrent enrollment in N405, N406, or N407. Lecture 2 hours.

**D. Taylor**

Critical analyses of clinical strategies and nursing interventions in health promotion and maintenance using research findings and theoretical frameworks related to risk screening, disease prevention, and health promotion in primary health care across the lifespan. FAM HLTH

**246. PHCII: Symptom Assessment & Management.** (3) § Sp. Prerequisite: N245 and 270. Lecture 3 hours.

**S. Rankin, Staff**

Course introduces students to symptoms related to illness conditions commonly encountered in primary care. The client's clinical presentation, etiology, and appropriate management are discussed as they occur across the lifespan.

**246.01. Seminar in Adult Primary Care.** (1) § Sp. Seminar 1 hour.

**Saxe, Burgel, Kelber, O'Mara, Collins-Bride**

Seminar is taken concurrently with PHC II and provides the specialty content necessary for adult primary care nurse practitioners. Application from PHC II lectures will be made to the specialty area using case presentations and other relevant learning strategies. MENT HLTH COMADM

**246.02. Seminar in Family Primary Care.** (1) § Sp. Seminar 1 hour.

**S. Rankin**

Seminar is taken concurrently with PHC II and provides the specialty content necessary for family primary care nurse practitioners. Application from PHC II lectures will be made to the specialty area using case presentations and other relevant learning strategies. FAM HLTH

**246.03. Seminar in Gerontological Primary Care.** (1) § Sp. Seminar 1 hour.

**C. Deitrich**

Seminar is taken concurrently with PHC II and provides the specialty content necessary for gerontological primary care nurse practitioners. Application from PHC II lectures will be made to the specialty area using case presentations and other relevant learning strategies. PHYSIOL NURS

**246.04. Seminar in Pediatric Primary Care.** (1) § Sp. Seminar 1 hour.

**Jackson**

Seminar is taken concurrently with PHC II and provides the specialty content necessary for pediatric primary care nurse practitioners. Application from PHC II lectures will be made to the specialty area using case presentations and other relevant learning strategies. FAM HLTH

**246.05. Seminar in Women's Primary Care.** (1) § Sp. Seminar 1 hour.

**Taylor, Lommel**

Seminar is taken concurrently with PHC II and provides the specialty content necessary for women's primary care nurse practitioners. Application from PHC II lectures will be made to the specialty area using case presentations and other relevant learning strategies. FAM HLTH

**247. PHCIII: Complex Health Problems & Management.** (3) § F. Prerequisites: N270, N245, N246, or consent of instructor. Lecture 3 hours.

**B. Burgel**

Course introduces the more complex health problems encountered in primary care. Client's clinical presentation, underlying causes, and appropriate treatment are discussed. Separate specialty track seminars permit elaboration of problems as they occur in the specialty. FAM HLTH

**248. Group Independent Study.** (1-6) § F,W, Sp. Prerequisite: Consent of instructor. Lecture 1-6 hours.

**Staff**

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

**249. Independent Study.** (1-5) § F,W, Sp. Prerequisite: Consent of instructor. Lecture 1-5 hours.

**Staff**

Student undertakes an individual study with emphasis on special problems in nursing. Students may select an area of study which is related to his/her area of interest or future goals.

**250. Research.** (1-8) § F,W, Sp. Prerequisite: Admission to doctoral study and consent of instructor.

**Staff**

Course offers students an opportunity to engage in research with selected faculty. INTERDEPARTMENTAL

**250.01. Research Rotation.** (1-6) § Su, F,W, Sp. Prerequisite: Completion of first year of doctoral study and consent of adviser. Lab 3-18 hours.

**Staff**

The student will participate in ongoing faculty research. This experience will contribute to the student's methodological or substantive expertise. INTERDEPARTMENTAL

**250.02 Clinical Research Rotation.** (1-6) § Su, F,W, Sp. Prerequisite: Completion of first year of doctoral study and consent of adviser. Lab 3-18 hours.

**Staff**

The student will participate in ongoing faculty clinical research. This experience will contribute to the student's methodological or substantive expertise. INTERDEPARTMENTAL

**251. Advances in Vascular Nursing.** (3) § SS1, SS2, Su, F,W, Sp. Prerequisite: Consent of instructor. Learning modules 10 hours.

**C. Hubner**

Course examines the theoretical basis of prevention, intervention, adaptation, and rehabilitation in peripheral vascular insufficiency utilizing relevant research. Computer simulations facilitate synthesis and application of content. PHYSIOL NURS

**252. Issues in Scientific Inquiry.** (2-4) § F. Prerequisite: Consent of instructor. Restriction: Doctoral-

level students who have completed the preliminary exam. Seminar 2-4 hours.

**Staff**

Course provides a forum for discussion of issues in the conduct of scientific investigations emphasizing those situations and problems associated with the content areas specific to the students' own interests.

PHYSIOL NURS

**253. Innovative Subsystems of Nursing Care.** (3) § W. Restriction: Doctoral level—suggested D.N.S. Seminar 3 hours.

**I. Martinson**

Course provides instruction in the development of a nurse-directed subsystem of care, including the capability to develop a feasible, functioning system to plan design for collection and analysis of data needed for evaluation. FAM HLTH

**254. Fetal-Newborn Development.** (2) § Sp. Lecture 2 hours.

**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 developmental alterations, and transitions for extra-uterine adaptation. Implications for nursing practice are explored. FAM HLTH

**255.01. Pediatric Health Assessment.** (2-3) § Sp. Prerequisite: Consent of instructor. Restriction: For students enrolled for 2U, evidence must be provided of a concurrent supervised physical assessment experience. Lecture 2 hours. Lab 3 hours.

**P. Jackson, K. Duderstadt**

Course presents theoretical principles and assessment techniques for determining health status of children, including health history and physical examination. Focus is on collection and interpretation of clinical data. Laboratory or concurrent practicum required. FAM HLTH

**255.03A. Common Pediatric Illness Management.** (2) § F Prerequisite: Consent of instructor. Lecture 2 hours.

**P. Jackson**

Course presents theories, concepts, and knowledge for comprehensive assessment and management of common pediatric illnesses. Emphasizes the most common acute conditions managed by a PNP in collaboration with pediatrician. Integrates history taking, physical findings, diagnosis, and management. FAM HLTH

**255.03B. Common Pediatric Illness Management.** (3) § W. Lecture 3 hours.

**K. Duderstadt**

Course presents theories, concepts, and knowledge for comprehensive care of children with common pediatric illness. It emphasizes common acute conditions managed by a clinical nurse specialist in Pediatric Primary Care in collaboration with a physician. FAM HLTH

**256. Transitions & Health.** (3) § W, Sp. Lecture 3 hours. Course may be repeated for credit.

**A. Meleis**

Critical and analytical review of theories and research that links health of the individual and families to relocations and transitions. Focuses on responses and coping with situational, developmental, health-illness, and sociocultural transitions. Nursing therapeutic theories will also be explored. MENT HLTH COM ADM

**257. Biology of Aging.** (3) § W. Seminar 3 hours.

**M. Wallhagen**

Course focuses on the biology, pathophysiology, and current theories of human aging. Clinical application of theory for nursing practice is provided. PHYSIOL NURS

**258A. Family/Childbearing Theory.** (3) § F Seminar 2 hours. Field work 3 hours.

**J. DeJoseph**

Course is an introduction to the theoretical foundation of knowledge about the childbearing family. A selection of nursing theories is used to assist the student to analyze the psychosocial and physiological factors impacting the family during the childbearing cycle. FAM HLTH

**258B. Family/Childbearing Phenomena.** (3) § W. Seminar 2 hours. Project 3 hours.

**D. Affonso**

Course studies perinatal phenomena identified in national reports for their theoretical, practice, and research implications. Phenomena include prevention of low birthweight infants, contemporary stressors for childbearing families, cognitive model to assess cultural diversity in perinatal health care, and related legislation. FAM HLTH

**258C. Family/Childbearing Theory.** (3) § Sp. Prerequisite: N 258A and N258B. Seminar 3 hours.

**M. Gershwin**

Clinical seminar addresses psychosocial and pathophysiologic issues of pregnancy, childbirth, parenting, and family/marital relationships during childbearing; focus on self-care practices for family; emphasis on midwife as facilitator of adaptation. FAM HLTH

**259.01. Women's Reproductive Health.** (1-5) § F. Lecture 1-5 hours.

**L. Lommel**

Course provides exploration of theories, concepts, and knowledge necessary to maintain and promote women's health. Emphasis is on application of current research: decision-making and management of pregnancy, the interconceptional period, and the climacteric, including collaboration with health team members. FAM HLTH

**259.02. Special Problems in Women's Health.** (1-4) § W. Prerequisite: Consent of instructor. Lecture 1-4 hours. Seminar optional 1 hour.

**D. Taylor, L. Lommel**

Emphasis is on theory and management of biopsychosocial deviations from normal in women be-

fore and during pregnancy, interconceptional period, and climacteric. Emphasis placed on critical analysis of research in metabolic, infectious, and functional disorders including collaborative management of women manifesting these disorders. FAM HLTH

**259.03. Advanced Women's Health Seminar.** (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**P. Bernal De Pheils**

Course explores theoretical and management aspects of selected phenomena in women's health applicable to the nurse practitioner role. FAM HLTH

**260A. Cultural Concepts in Hlth Care.** (3) § F,W, Sp. Seminar 3 hours.

**J. Lipson**

Course introduces basic concepts and issues in medical anthropology and transcultural nursing. Provides opportunity to critically review research literature and discuss implications for nurses and other health care professionals. MENT HLTH COM ADM

**260B. Intl & Cross-Cultural Theories.** (3) § F,W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**A. Meleis**

Course explores theoretical and conceptual aspects of international and cross-cultural nursing. Topic areas covered include culture and ethnicity; social policy and international development; health planning; ethics; and cross-cultural communication. MENT HLTH COM ADM

**260C. Int/Cross-Cultural Nsg Issues.** (3) § F,W, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.

**J. Lipson**

Seminar examines selected international nursing issues including primary care, nursing education and nursing service, women's roles, and patients' rights. MENT HLTH COM ADM

**261. Mental Health Nursing and the Law.** (2) § W, Sp. Prerequisite: Enrollment in M.S. program in Psychiatric Nursing or consent of instructor. Lecture 2 hours.

**G. Gresham**

Course reviews history and development of mental health legislation and decisional law in the U.S. and California. Explores current mental health laws as they relate to and influence the practice of psychiatric nursing in the public and private sectors. MENT HLTH COM ADM

**262A. Women's Health Roles/Issues I.** (1) § F,W. Prerequisite: Enrollment in Women's Health Nurse Practitioner Program or consent of instructor. Seminar 2 hours (every other week).

**J. DeJoseph, J. Flanagan, D. Taylor, L. Ennis, L. Lommel**

Seminar focuses on critical analysis of issues influencing role transition, role enactment, scope and control of practice, and professional growth of the women's health care provider. FAM HLTH

**262B. Women's Health Roles/Issues II.** (1) § W, Sp. Prerequisite: N262A. Seminar 1 hour.

**J. DeJoseph**

Seminar focuses on critical analysis of issues influencing restraints and enhancements of contemporary practice for women's health care providers. Impact of current legal, legislative, technological, and health care delivery trends are examined. FAM HLTH

**263. Bereavement.** (2-3) § Sp. Lecture 2 hours. Lab 0-3 hours.

**I. Martinson**

Course analyzes empirical research and theory dealing with bereavement. Underlying physiological and psychological mechanisms and responses related to death will be explored across the lifespan. FAM HLTH

**265. Management of Clinical Occupational Health Problems.** (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 1 hour.

**B. Burgel**

Multidisciplinary course exploring the evaluation and clinical management of acute and chronic occupational and environmental health problems. Clinical diagnostic strategies and epidemiologic methods are used in evaluation of occupational health problems, including health hazard evaluations, surveillance, and disability evaluation. MENT HLTH COM ADM

**266. Applied Pathophysiology of AIDS.** (2) § F. Prerequisite: Undergraduate biology or consent of instructor. Lecture 2 hours.

**A. Lewis, T. Moran, G. Gee**

Course describes theories of the natural history of AIDS and AIDS-related diseases. Symptomatology, diagnostic tools, treatments, and investigational protocols will also be reviewed. Clinical cases and nursing management using secondary prevention techniques will be emphasized. PHYSIOL NURS

**267. Ethical Dilemmas & Nursing Prac.** (3) § F,W. Lecture 2 hours.

Library research 3 hours.

**A. Davis**

Course explores selected ethical theories, ethical dilemmas in health care and nursing practice. Focus is on selected case studies depicting ethical dilemmas in nursing practice, nursing research, and health policy. MENT HLTH COM ADM

**268. Psychiatric Liaison Nursing.** (2) § F,W, Sp.

Prerequisite: N211A and enrollment in the child or adult psychiatric nursing specialty tracks, Department of Mental Health, Community, and Administrative Nursing, or consent of instructor. Lecture 2 hours.

**L. Chafetz**

Course reviews the emerging literature on psychiatric liaison nursing. Reports on roles of psychiatric nurses in medical settings will be critically analyzed, as well as clinical studies from the area of general hospital psychiatry. Comparative models of practice are discussed. MENT HLTH COM ADM

**269. Historical & Contemporary Issues.** (2-3) § F, W, Sp. Lecture 2 hours. Seminar optional 1 hour.

**M. Styles**

This course is designed to explore major issues and trends in contemporary nursing and health care delivery as they relate to nursing practice, education, and research. MENT HLTH COM ADM

**270. Advanced Health Assessment.** (2) § F Prerequisites: Students take this course concomitantly with N400 level Practicum. Lecture 2 hours.

**L. Lommel**

Course introduces advanced health assessment techniques to evaluate the health status of clients across the lifespan. Focuses on collection of a comprehensive history and physical examination for the adult and child, highlighting changes associated with adolescence, pregnancy, and aging. MENT HLTH COM ADM

**271A. Clinical Management in Adult Primary Care.** (1-4) § F Prerequisite: N270 or consent of instructor. Lecture 1-4 hours.

**T. Mendelson**

Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of the nursing process into clinical decision-making. MENT HLTH COM ADM

**271B. Clinical Management in Adult Primary Care.** (1-4) § W Prerequisite: Consent of instructor. Lecture 1-4 hours.

**E. Hughes**

Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of the nursing process into clinical decision-making. MENT HLTH COM ADM

**271C. Clinical Management in Adult Primary Care.** (2-4) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Independent projects optional for 3-4 units.

**T. Mendelson**

Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of nursing process into clinical decision-making. MENT HLTH COM ADM

**272. Chronic Illness: Child & Family.** (3) § W Prerequisite: N238A, Anthropology 235, Psychology 205, or consent of instructor. Lecture 3 hours.

**D. Weekes**

Course offers study of chronic illness in childhood and its effects upon the individual and his/her family. The presentation of content is based upon developmental and interactional models. Clinical content considers systematic assessment and intervention. FAM HLTH

**273A. Current Concepts in Occupational Health.** (2) § F Prerequisite: Consent of instructor. Lecture 2 hours.

**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 Prerequisite: Consent of instructor. Lecture 2 hours.

**B. Nuchols**

Course analyzes structure and organization of the occupational health systems, 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

**274. Health and Safety Hazards/Workplace.** (3) § Sp. Lecture 2 hours. Lab 3 hours.

**B. Nuchols**

Course introduces principles of industrial hygiene and safety for identification of chemical, biologic, physical, ergonomic, and safety hazards of work. Students will identify environmental monitoring methods, select health surveillance and safety measures, and discuss methods of control exposures and injuries. MENT HLTH COM ADM

**275A. Physiological Basis for Nursing.** (1-3) § F Lecture 1-3 hours.

**M. Engler**

Course studies physiological theories applicable to nursing. Focus is on normal cell functions and nervous and endocrine systems functions which serve as a basis for nursing practice. PHYSIOL NURS

**275B. Physiological Basis for Nursing.** (1-3) § W Lecture 1-3 hours.

**M. Engler**

Course studies physiological theories applicable to nursing. Focus is on normal function of gastrointestinal, cardiovascular, renal and pulmonary systems which serve as a basis for nursing practice. PHYSIOL NURS

**275C. Neonatal Pathophysiology.** (2) § Sp. Lecture 2 hours.

**D. Affonso**

Course is a study of the major disease processes encountered in the neonate and their relevance to nursing practice. The course will address etiology, manifestations and treatment during the acute phase of illness. FAM HLTH

**276. Theoretical Perspectives for Nsg Practice.** (3) § F Lecture 3 hours.

**P. Benner**

Comparative study of selected nursing conceptions and theories and their implications for nursing practice, curriculum development, and research. Critique

of theories will address key questions relevant to nursing goals, intervention focus and outcomes, recipient of nursing, and social significance. PHYSIOL NURS

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

**J. Faucett**

Course focuses on assessment and management of psychosocial problems and psychiatric conditions. Course is designed to assist students in determining patients for management and for referral and to develop beginning skills in managing selected patients. MENT HLTH COM ADM

**278. Nursing Science History & Philos.** (4) § F Prerequisite: Doctoral-level standing or consent of instructor. Lecture 2 hours. Seminar 2 hours.

**S. Gortner**

Course is an analysis of history and philosophy of nursing science in the United States and abroad, addressing origins of scientific questions and activity, contemporary philosophic viewpoints, and debates currently ongoing regarding design, conduct, and outcomes of nursing research. FAM HLTH

**279A. Family Nursing Theory.** (3) § F Lecture 2 hours. Seminar 2 hours every other week.

**C. Chesla**

Course provides an introduction to family theories about systems, development, and stress. Lectures identify relation of stressors with family health or illness and examine ways to apply family theories to nursing practice. Seminars focus on interviewing techniques to assess family health. FAM HLTH

**279B. Family Nursing Interventions.** (3) § W Prerequisite: N279A or consent of instructor. Lecture 2 hours. Seminar 1 hour.

**C. Chesla**

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

**279C. Cultural Issues in Family Health.** (2) § Sp. Prerequisite: N 279B and consent of instructor. Lecture 1 hour. Seminar 1 hour.

**Staff**

Course involves analysis of family, cultural, and behavioral theories and issues leading to clinical intervention in family primary care. 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**

Seminar critically examines theory and research focused on personal and environmental factors as they influence health and illness. Concepts of person, environment, and health will be analyzed and discussed as they pertain to the development of nursing science through research. FAM HLTH

**281B. Res. Sem: Hlth & Its Correlates.** (3-4) § Sp. Prerequisite: N281A and enrollment in Ph.D. program in Nursing, or consent of instructor. Lab 3 hours. Seminar 3 hours.

**I. Martinson**

Course critically examines faculty research investigating nursing science from the perspective of person, environment, and health. PHYSIOL NURS

**282. Geriatric Pharmacology** (3) § W Lecture 3 hours.

**S. Echaves, C. Deitrich**

Course explores clinical management of pharmacology and integration of drug therapy into the therapeutic plan and nursing care of older adults. The course focuses on drugs commonly used in multiple settings for the treatment of chronic disease and minor acute illnesses. PHYSIOL NURS

**283A. Pediatric Normal/Abnormal Function.** (1-3) § F Lecture 1-3 hours.

**M. Lynch**

Course studies physiologic function of the cellular, neurological, and respiratory systems as modified by developmental needs, system immaturity, and pathophysiological processes in the pediatric population. Implications for pediatric nursing practice will be addressed in relation to normal/abnormal system function. FAM HLTH

**283B. Pediatric Normal/Abnormal Function.** (1-3) § W Lecture 1-3 hours.

**M. Lynch**

Course studies physiologic function of the cardiovascular, hematological, and immunological systems as modified by developmental needs, system immaturity, and pathophysiological processes in the pediatric population. Implications for pediatric nursing practice will be addressed in relation to normal/abnormal system function. FAM HLTH

**283C. Pediatric Normal/Abnormal Function.** (1-3) § Sp. Lecture 1-3 hours.

**M. Lynch**

Course studies physiologic function of the gastrointestinal, renal and endocrine systems as modified by developmental needs, system immaturity, and pathophysiological processes in the pediatric population. Implications for pediatric nursing practice will be addressed in relation to normal/abnormal system function. FAM HLTH

**284. Adolescent Health Care.** (2) § F Prerequisite: Consent of instructor. Seminar 2 hours.

**M. Svedra, J. Broering**

Examination and analysis of theory and research related to health care of adolescents and their families in

a variety of settings. Emphasis will be on adaptation to selected stresses including trauma, chronicity, hospitalization, terminal illness and disability. FAM HLTH

**285. Assessment of Women's Health.** (3) § Sp. Prerequisite: Consent of instructor. Restriction: Women's Health Nurse Practitioner students. Lecture 2 hours. Lab 3 hours.

**J. Neeson, L. Lommel**

Course presents theoretical principles of health assessment. Areas to be covered include methodologies of data gathering and data analysis essential to comprehensive health assessment of women. The laboratory experience provides application and integration of theory. FAM HLTH

**286A. Research in Stress & Coping.** (3-4) § W. 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 COMADM

**287B. Behavior in Organizations.** (3) § W. Prerequisite: N287A and consent of instructor. Lecture 3 hours.

**H. DeGroot**

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 COMADM

**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 COMADM

**287D. Financial Management for Nurse Administrators.** (4) § W. Lecture 3 hours. Lab 3 hours.

**V. Cleland**

Course offers introduction to financial accounting principles as they relate to financial management in health care settings. Emphasis is on the manager's role and responsibilities in budgeting, monitoring, controlling, and in costing nursing care. Laboratory permits skill development. MENT HLTH COMADM

**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 COMADM

**288B. Cost Methodology in Nursing.** (3) § F, Sp. Prerequisites: N211.08B (Critique of Management Research) or equivalent, N287D (Financial Management for Nurse Administrators) or equivalent, and doctoral study or consent of instructors. Lecture 2 hours. Field work 3 hours.

**V. Cleland**

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 COMADM

**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 COMADM

**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 COMADM

**290.01. Family Health Nursing Theory.** (3-4) § W. Prerequisite: Enrollment in doctoral program. Lab 0-3 hours. Seminar 3 hours.

**C. Gilliss**

Comparative analysis of classical theories and methodologies for deriving a theory base for family health

nursing. Emphasis is on interactional, role, structural-functional, and systems theories. FAM HLTH

**290.02. Family Health Theory.** (3-4) § Sp. Prerequisite: N290.01. Seminar 3 hours. Independent Study 0-3 hours.

**C. Gilliss**

Course is a comparative analysis of theories/approaches for deriving a theory base for family health nursing. Emphasis is on developmental, ecological, field, conflict, stress, and adaptation theories. FAM HLTH

**291. Acute Psych Care in the Community.** (2) § F Seminar 2 hours.

**L. Chafetz**

Course reviews clinical problems encountered in acute psychiatric services in community settings. In addition to direct care issues, students have the opportunity to discuss the socio-cultural, legal, ethical, and economic factors which influence provision of services. MENT HLTH COMADM

**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.

**S. Leibel**

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

**294. Foundation of Nurse-Midwifery Care.** (3) § F Prerequisite: Enrollment in Nurse-Midwifery Specialty. Lecture 3 hours.

**L. Ennis**

Course focuses on theory supporting midwifery management of the low- to high-risk fetus and newborn. Content traces human development from conception through adaptation to neonatal life. Course articulates with clinical lab which covers newborn health assessment and management skills. FAM HLTH

**295. Quasi-Experimentation in Nsg Res.** (3) § F, Sp. Prerequisite: Consent of instructor. Seminar 3 hours.

**W. Holzemer**

Seminar addresses validity issues of quasi-experimentation in nursing research. Designs examined in nursing literature include non-equivalent control group designs, interrupted time-series designs, passive observation, and randomized experiments. MENT HLTH COMADM

**296. Teaching-Learning Processes.** (4) § SS1 or SS2, W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 2 hours.

**Staff**

Course analyzes principles, theories and research in the field of teaching with emphasis on teaching strategies and evaluation methods applicable to clinical and educational settings. A microteaching format is incorporated for application and evaluation of selected teaching interactions. PHYSIOL NURS

**297. Human Responses to Pain.** (2) § F Lecture 2 hours.

**M. Savedra**

Course explores research related to physiological, psychological, and social responses to human pain; nursing implications for pain assessment; and management of acute and chronic painful conditions across the life span. FAM HLTH

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

**Staff**

For graduate students engaged in writing the thesis for the master's degree or taking a comprehensive examination required for the master's degree.

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

**Staff**

For graduate students engaged in writing the dissertation for the Doctor of Nursing Science (D.N.S.) or Doctor of Philosophy in Nursing degree.

**401. Teaching Residency.** (4-12) § F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours.

**Staff**

Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

**402. Administration Residency.** (2-12) § SS1, SS2, F, W, Sp. Prerequisite: Completion of N287ABC and N287D, each with a grade of B or higher, and consent of instructor. Lab 6-36 hours.

**Staff**

Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor. MENT HLTH COMADM

**403. Consultation Residency.** (4-12) § F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours.

**Staff**

Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor. MENT HLTH COMADM

**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.



**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

**404.02. Advanced Practice Residency.** (2-12) § Su, F,W, Sp. Prerequisite: Consent of instructor. Patient contact 6-36 hours.

**Staff**

Course provides student with the opportunity to apply and evaluate theories, concepts, and skills under the supervision of a preceptor in one or more clinical practice settings. FAM HLTH

**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. Pediatric Residency.** (4-6) § W. Prerequisite: Consent of instructor. Lab 10-16 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. Pediatric Residency.** (4-6) § Sp. Prerequisite: Consent of instructor. Lab 10-16 hours. Seminar 2 hours.

**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

**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 COMADM

**406. Practicum in Family Health Care Nursing.** (1-8) § SS1, SS2, Su, F,W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours.

**Staff**

Course provides student opportunity to apply theory in clinical practice to further 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: Concurrent enrollment in N242B. N257 or consent of instructor. 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

**408. Clinical Residency.** (4-12) § SS1, SS2, Su, F, W, Sp. Prerequisites: Consent of instructor. Lab 12-36 hours.

**Staff**

Course provides the student an opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

**410. Teaching Practicum.** (1-8) § F,W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours.

**Staff**

Supervised practice in selected components of the teaching role in nursing.

**411A. Introduction to Computers.** (2) § F,W, Sp. Lecture 2 hours.

**R. Slaughter**

Course presents overview of the impact of computer technology upon nursing. Focus is upon hardware and software for nursing in the mainframe to micro environment. Word processing for scientific writing using IBM PC is an integral part of the class. PHYSIOL NURS

**411B. Fiscal Modeling.** (2) § W. Prerequisite: N411A. Priority of space available to Administration students. Lecture 2 hours.

**R. Slaughter**

Course emphasis is on the use of the computer as a tool for the nurse manager in financial planning. PHYSIOL NURS

**411C. Computers in Administration.** (2) § Sp. Prerequisite: N411AB. Lecture 2 hours.

**R. Slaughter**

Course provides an introduction to administrative information systems and their impact upon patient care. Emphasis will be on data base management systems in a nursing administration environment. PHYSIOL NURS

**411D. Introduction to Computers.** (2) § F,W, Sp. Lecture 1 hour. Lab 3 hours.

**J. Grout**

Course provides an introduction to microcomputers, focusing on word processing, DOS basics and hard disk management, hardware and software applications, and purchasing a system. PHYSIOL NURS

**411E. Data Management.** (2) § SS1, F,W, Sp. Prerequisite: None. Biostatistics 187 or 185AB are recommended. Lecture 1 hour. Lab 3 hours.

**S. Paul**

Course offers a hands-on experience with computers and programs that can be used for data management and statistical analysis. The benefits of considering options for data collection, entry, analysis, and preparing research strategy before data are collected is emphasized. PHYSIOL NURS

**Nutrition**

**130. Nutrition & Health.** (2) W. Lecture 2 hours.

**S. Silverstein**

An introduction to the basic principles of human nutrition. Subject material is related to the maintenance of normal nutrition throughout one's lifespan, and emphasis is on normal nutrition and its preventive role in maintaining general health, specifically oral health. DENT PUB HLTH

**160. Nutrition.** (2) F Lecture 2 hours.

**S. Silverstein**

The goal of the course is to teach nutrition to dental hygiene students. The students will understand the techniques of dietary counseling that can be used in the practice of dental hygiene. DENT PUB HLTH

**180. Nutrition & Preventive Dentistry.** (1) Sp.

Lecture 1 hour. Laboratory 1 hour. Prerequisite: Senior status in dental hygiene program, Nu 130B.

**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) § Sp. 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) § 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

**249. Independent Study in Nutrition.** (1-4) § F,W, Sp. Prerequisite: Completion of or concurrent enrollment in Nu200, or Nu202, or Nu208. Lecture 1-4 hours.

**Y. Gutierrez**

Course is designed to focus on the exploration of selected nutritional issues in clinical nursing practice. Guided study will include analyses of scientific and popular nutrition literature, and identification and delineation of therapeutic approaches. 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.

**R. Glass, Braga**

Basic principles and fundamental techniques in obstetrics and gynecology are discussed in a series of seminars, case discussions, and teaching clinics. Students gain practical experience in clinics, wards, delivery room, and operating room under direct supervision. OB GYN R S

**140.02. Advanced Clinical Clerkships.** (1.5 per week) Su, F,W, Sp. Prerequisite: Satisfactory completion of Obstetrics and Gynecology 110, Pediatrics Core Clerkship and 110, and either Medicine 110 or Surgery 110 Core Clerkships.

**Robertson**

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.

**A. Korn**

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.

**B. Powell**

The clerk functions in the role of an acting resident on the gynecology service. Responsibilities are primarily on the inpatient service and will include both surgical and nonsurgical aspects of gynecologic oncology, endocrinology, infertility, and general gynecology. OB GYN R S

**140.08. Ob/Gyn Preceptorship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110 and consent of instructor and chairperson of the department.

**Staff**

Clinical experience in a subspecialty area or general obstetrics and gynecology under the direction of a member of the faculty. OB GYN R S

**140.09. High-Risk Pregnancy—Advanced Senior Elective.** (1.5 per week) SS1, SS2, Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110.

**Kilpatrick and Staff**

Advanced clerkship focusing on outpatient special obstetrical care clinics and inpatient management of high-risk antepartum patients. Duties will include presentations at conferences, journal clubs, and at least one review of a pertinent topic. 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

**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

**210. Molecular and Cellular Biology of Reproduction.** (4) § W. Lecture 2 hours. Conference 2 hours.

**Skinner, Weiner, Ingraham**

The molecular, cellular, and physiological aspects of selected areas of Reproductive Biology will be reviewed. Emphasis will be to convey an appreciation of taking a system from a physiological level to a molecular level of understanding. Application of this information will be illustrated by investigating the molecular medicine aspects of each topic. 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.

**Gates, 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.

**Gates**

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.

**M. Drake**

Students will serve as subinterns on the ophthalmology wards. They will work up and present patients, and attend surgery and postoperative clinics. This is an intensive clerkship where students will be on twenty-four hour call the entire time. OPHTHALMOL

**140.01B. Advanced Ophthalmology Clkshp—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

**Good**

Students will observe, work up and present ophthalmology outpatients at the Eye Clinic. They will attend department rounds and conferences. OPHTHALMOL

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

**Good**

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

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

**Seiff, Good**

Students serve as subinterns on the Ophthalmology Service. They work up and present cases in the outpatient clinic and on the wards; and have the opportunity to participate in the operating room. On-call and weekend responsibilities should be expected. OPHTHALMOL

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

**Zarbin**

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

**150.02. Ophthalmology Research.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department.

**S. Kramer**

A research project under the direction of a member of the faculty carried out in the Department of Ophthalmology. OPHTHALMOL

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

**S. Kramer**

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

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

**S. Kramer**

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

**400. Staff Conference.** (1) F, W, Sp.

**S. Kramer**

Residents prepare and present diagnostic and therapeutic problem cases. Discussion by faculty and visitors follows. Residents also present papers on various aspects of medicine and ophthalmology, which are discussed by faculty members. OPHTHALMOL

**401. Staff Conference.** (1) F, W, Sp. Prerequisite: First- and third-year residents.

**S. Kramer**

Conferences include grand rounds and case presentations of hospital patients, review of recent literature in

ophthalmology, and assigned reading with required reports. OPHTHALMOL

**402. Special Topics Seminar.** (6) F, W, Sp.

**S. Kramer**

Seminars include didactic lectures in practical work covering pathology, neuro-ophthalmology, uveitis, physiological optics, refraction, ocular motility, glaucoma, and microbiology. OPHTHALMOL

**403. Basic Ophthalmologic Science.** (6) Su. Required for first-year residents.

**S. Kramer**

Didactic lectures and demonstrations cover the basic sciences as applied to ophthalmology. These include anatomy, histology, biochemistry, physiology, and pharmacology. OPHTHALMOL

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

**M. Drake**

Residents, under supervision, are responsible for patients in the Eye Clinic. First-year residents assist in eye surgery and the Eye Bank program. Specialty clinics include external diseases, extraocular muscles, medical ophthalmology, ophthalmoscopy, refraction, cataract, glaucoma, neuro-ophthalmology, plastic surgery, and tumor. OPHTHALMOL

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

**UC Beard, CHMC E. Stern**

Residents, under supervision, are responsible for patient care including diagnostic studies and treatment of medical eye care, diagnosis, surgery, and follow-up treatment of surgical eye cases. Residents consult for other hospital services. OPHTHALMOL

**455. Fourth-Year Residency.** (1.5 per week) Su, F, W, Sp.

**S. Kramer**

Fourth-year residency taken at UC or at any approved institution subject to the approval of the chairperson of the department and the dean. OPHTHALMOL

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

**PH A. Schwartz, STM R.N. Shaffer, Schatz,**

**CHS, SRM Rathbun, DMC T. Moore**

Residents or fellows, under supervision, are responsible for patient care, including diagnostic studies and treatment of medical eye care, diagnosis, surgery, and follow-up treatment of surgical eye cases. OPHTHALMOL

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

**Seiff**

Residents, under supervision of the attending staff, are responsible for patient care on wards and in the follow-up clinic, including diagnostic studies and consultation. This rotation is combined with patient-care. OPHTHALMOL

## Oral Biology

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

### 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.

### Johnson

An in-depth study of the microbiology and immunology of periodontal diseases and dental caries. The formation and pathogenic potential of dental plaques are discussed. STOMATOL

**108.03. Cariology & Preventive Dentistry** (3) W. Prerequisite: Oral Biology 108.01 & 108.02. Lecture 2 hours, seminar 1 hour.

### Newbrun

Principles in the prevention and treatment of caries. Topics covered include composition and function of dentifrices, dietary factors in the pathogenesis of caries, the role of fluorides in caries prevention, and overall treatment planning for high caries risk patients. STOMATOL

**111. First Year Special Study.** (2) F. Prerequisite: Passing placement examination and consent of instructor. Lecture 2 hours.

### Newbrun

Discussion of biological problems of interest in dentistry including saliva, mineral metabolism, hydroxyapatite crystal structure, connective tissue, bacterial cell walls, oral bacterial metabolism, and blood coagulation. STOMATOL

**116. Intro to Oral Biology.** (2) F. Lecture 1 hour, lab 2 hours.

### Ryder

Introduction to oral biology correlating morphology, chemistry, function of dental and paradental tissues. Topics include enamel, dentin, cementum, pulp, dental caries, tooth eruption, periodontium, oral mucous membranes. STOMATOL

**150. Introduction to Oral Biology.** (1) F. Prerequisite: Dental Hygiene standing. Lecture 1 hour.

### Ryder

Introduction to oral biology correlating morphology, chemistry, function of dental and paradental tissues. Topics include enamel, dentin, cementum, pulp, dental caries, tooth eruption, periodontium, oral mucous membranes. STOMATOL

**198. Supervised Study.** (1-5) Su, F, W, Sp. Library research: 3-15 hours.

### Staff

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

**199. Laboratory Project.** (1-5) 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. 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

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

### Newbrun

Recent information on the composition, regulation, and function of the secretions from the major and minor salivary glands. Special consideration will be given to salivary gland dysfunction and its consequences. STOMATOL

**215. Laboratory Rotation.** (4) § F, W, Sp. Prerequisite: Consent of instructor. Lab 12 hours.

### Staff

A laboratory rotation course to familiarize first-year graduate students with various approaches to research in Oral Biology. STOMATOL

**220. Current Topics.** (1.5) § F, W, Sp. Seminar 1.5 hours

### Staff

A seminar series covering current advances in research in oral biology in a systematic manner. Current literature will be critically reviewed by students under faculty supervision, or by faculty or guest lecturers. STOMATOL

**221. Extracellular Matrices.** (2) § F. Prerequisite: Consent of graduate advisor and instructor. Seminar 2 hours.

### Damsky

Assembly and composition of extracellular matrices, including interactions that occur between cells and matrices. Emphasis on the role of various extracellular matrices during development, function of cell-matrix interactions in the adult, and the perturbation of these relationships that accompanies various disease processes. STOMATOL

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

### Kramer

Recent information on cell biology and physiology of mineralized tissues, and cell biology and development of cell types that produce the extracellular matrices that are subsequently mineralized. Emphasis on process of mineralization and the hormone regulation of mineral deposition and mobilization. STOMATOL

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

### Rothman, Sargent, A. Miller, Gruenert

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

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

### Pereira

Components of the immune system, survey of the various immunologic mechanisms in host responses, and current working concepts of the immune system. Overview of consequences that failure, exaggeration, or inability to distinguish self from non-self, may have for the host. STOMATOL

**225. Oral Microbiology and Virology.** (2) § W.

Prerequisite: Oral Biology 224 or consent of graduate advisor and instructor. Lecture 2 hours.

### Armitage, Pereira, and Staff

Current information on pathogenic mechanisms involved in oral diseases, with emphasis on the structure metabolism, genetics and ecological relationships of bacteria and viruses that affect oral tissues. STOMATOL

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

### Armitage, Newbrun, Bramanti, Johnson, Richards

Continuation of studies in oral microbiology begun in Oral Biology 225. In-depth study of the structure, metabolism, genetics, and ecological relationships of bacteria, yeasts, and fungi that affect oral tissues. STOMATOL

**250. Research.** (1-8) § F, W, Sp.

### Staff

STOMATOL

**270. Journal Club.** (1) § F, W, Sp. Seminar 1 hour.

### Staff

Students review a small group of related papers and examine intensively the most significant paper. Students will present four such Journal Club talks in their first two years. A written report will be required in the other quarters. STOMATOL

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

### Staff

Reading and conferences under the direction of a member of the staff. STOMATOL

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

### Staff

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

**300A-B-C-D. Teaching Practicum.** (1-4, 1-4, 1-4, 1-4) § F, W, Sp, SS1. Prerequisite: Consent of instructor.

### Staff

Practice in teaching in a course in oral biology under the supervision of the instructor in charge. STOMATOL

**406A-B-C. Selected Topics.** (1-1-1) F, W, Sp. Seminar 1 hour.

### Staff

A wide spectrum of selected topics related to oral biology is presented with emphasis on basic and applied research methodology, pertinence of problems, significance of findings, and critical evaluation of data. STOMATOL

## Oral Diagnosis

**139. Intro Clinical Oral Diag Sciences.** (0-4) Su, F, W, Sp. Prerequisite: Successful completion of Orad 129, Rest Dent 116B&C, 126A-B-C, and Oral Med 122. Clinic 3 hours.

### Danford

Dental clinical problem solving; recognition and resolution. Clinical activities include review of medical and dental histories; examination of oral and para-oral structures; radiographic prescription, technique and interpretation; referral for appropriate medical or dental treatment; diagnosis and treatment of acute dental problems; management of the dental patient in pain, or desiring comprehensive dental treatment. STOMATOL

**149. Adv Clinical Problem Solving.** (0-2) Su, F, W, Sp. Prerequisite: Successful completion of Orad 129, Omed 122, Rest Dent 116B&C, 126A-B-C. Clinic 6 hours

### Danford

Recognition and resolution of dental clinical problems. Emphasis is on management of the patient in pain during clinic hours and on-call after hours. Students will examine oral and para-oral structures; 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 and senior dental hygiene status. Clinic 3 hours.

### Danford, Angin

In the clinical setting, the students review medical and dental histories; examine oral and para-oral structures;

make intra- and extra-oral dental radiographs; chart and present all findings; function as a team member in delivery of treatment of dental disease with the dental students and faculty. Emphasis is on the first patient visit for routine or emergency care to the dental school. STOMATOL

**189. Acute Dental Care Clerkship.** (1-10) F,W, Sp. **Danford**  
Advanced instruction and clinical experience in the diagnosis and treatment of acute dental problems. STOMATOL

## Oral & Maxillofacial Surgery

**109. Clinical Oral Surgery.** (0-5) SS, F,W, Sp. Prerequisite: Third-year standing. For senior rotation, student must have passed Oral & Max. Surgery 120, 130.01, 130.02, 130.03, 131, and 132 or have consent from the course supervisor. Clinic variable.

**R. Smith, Gordon, Pogrel**  
Students learn to recognize and treat common dental and medical emergencies; perform routine exodontia and minor oral surgical procedures; assist on major procedures in operating room setting; utilize common techniques of pain and anxiety control; assist with admission, work-up and discharge of hospital patients. ORAL & MAX SURG

**120. Local Anesthesia.** (0.5) Sp. Lecture 1 hour.  
**R. Smith, Gordon, Perrott**  
Course covers local anesthetics and techniques as they pertain to the dentition and oral cavity. ORAL & MAX SURG

**130.01. Dentoalveolar Surgery.** (1) SS. Prerequisite: Anatomy 117.01, 117.02, and Microbiology 116. Lecture 1 hour. Library research 1 hour.  
**Gordon, R. Smith, Perrott**  
An introduction to the basic principles of exodontia, dentoalveolar surgery, postoperative care, hemorrhage control, and management of common complications. ORAL & MAX SURG

**130.02. Pain & Anxiety Control.** (1) F Prerequisite: Anatomy 117.01, 117.02, and Microbiology 116. Lecture 1 hour.  
**Gordon, R. Smith, Perrott**  
A didactic course outlining the basic principles and techniques of pain and anxiety control in the dental office. Emphasis is on nitrous oxide and oxygen and intravenous sedation. ORAL & MAX SURG

**130.03. Diagnosis & Treatment of Oro-facial Pain.** (1) W. Prerequisite: Anatomy 117.01, 117.02, and Microbiology 116. Lecture 1 hour.  
**R. Smith, Gordon, Kaban**  
A didactic course covering current advances in the field of pain and a variety of topics such as physical evaluation of the pained patient, temporomandibular joint dysfunction, myofascial pain, and neuralgic pain. ORAL & MAX SURG

**131. Reconstructive Oral & Maxillofacial Surgery & Implantology.** (1) Sp. Prerequisite: Oral &

Max. Surgery 130.01, 130.02 and 130.03 or consent of instructor. Lecture 1 hour.

**R. Smith, Kaban, N. Gordon**  
Procedural skills and academic knowledge the general dentist should be familiar with: includes preprosthetic surgery and implantology, treatment of developmental and acquired deformities of the jaws, infections, temporomandibular joint, fractures of the jaws and contiguous structures, osteomyelitis. ORAL & MAX SURG

**132. Medical Emergencies & CPR.** (1) F Prerequisite: Third-year dental standing.

**R. Smith**  
This course covers the prevention and management of medical emergencies in the dental office. There is discussion on the management of the medically compromised patient. CPR training is also provided. ORAL & MAX SURG

**152. Oral & Maxillofacial Surgery.** (0.5) F Restriction: This course is offered for first-year dental hygiene students. Lecture 1 hour.

**R. Smith, Walsh**  
This course offers the same lectures about prevention and management of common medical emergencies as are given to third-year dental students (OMFS 132). However, the prerequisites do not apply, and the academic standards are adjusted to the student's background. OMFS 152 does not include the CPR experience. ORAL & MAX SURG

**189.04. Adv Clin Oral Surgery & Implantology.** (0-16.5) F,W, Sp. Prerequisite: Fourth-year standing and approval of department chairperson.

**R. Smith, Gordon**  
Clerkships at UC, affiliated or other institutions. Students participate in oral surgery care of ambulatory and hospitalized patients and attend seminars and conferences. ORAL & MAX SURG

**198. Supervised Study.** (1-5) F,W, Sp. Library research 3-15 hours.  
**Perrott & Staff**  
Library research and directed reading under supervision of a member of the faculty with the approval of the chairperson of the department. ORAL & MAX SURG

**199. Laboratory Project.** (1-5) F,W, Sp. Prerequisite: Approval of laboratory project by department chairperson. Lab 3-15 hours.

**Kaban & Staff**  
A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. ORAL & MAX SURG

**200. Interdisc Clin Correlations.** (1.5) § Sp. First-year students enrolled in postgraduate professional programs in good academic standing. Lecture 2 hours.  
**Pogrel**

Course focuses on critical analysis of theoretical, basic, and clinical concepts underlying the assessment and management of problems involving orofacial diseases, deformities, and dysfunctions. The applica-

tion of research findings to clinical practice is stressed. ORAL & MAX SURG

**410. Advanced Techniques in Pain Control.** (1) F Prerequisite: Two-week anesthesia rotations. Seminar 1 hour.

**Koppe**  
The trainees will attend seminars in the pharmacology and physiology of commonly used pain control medications. ORAL & MAX SURG

**419. General Dentistry in the Operating Room.** (1) Su, F,W, Sp. Patient contact 4 hours.

**Weisman**  
The trainees will provide general dental services in the operating room for patients requiring general anesthesia. ORAL & MAX SURG

**470. Risk Management in Oral and Maxillofacial Surgery.** (1) Sp. Prerequisite: Enrollment in the Oral and Maxillofacial postgraduate training program. Lecture 2 hours.

**Pogrel & Staff**  
Course reviews malpractice insurance, risk management, and oral and maxillofacial procedures that are at high risk for litigation. ORAL & MAX SURG

**471. Applied Surgical Anatomy.** (1) F,W, Sp. Prerequisite: Limited to interns and residents. Lab 3 hours.

**Pogrel, Perrott**  
Relationships of gross anatomical structures of the head and neck are studied during laboratory dissections. Emphasis is placed on the correlation of cadaver dissection findings to diagnosis and operating room surgery. ORAL & MAX SURG

**473. Orthognathic Surgery Seminar.** (1) F,W, Sp. Prerequisite: Enrollment in oral & max. surgery residency or general practice residency program. Seminar 1 hour.

**Kaban, Pogrel, Perrott**  
Residents will participate in evaluation and defining treatment options for patients with facial and dental deformities. ORAL & MAX SURG

**474. Oral & Max Surgery Seminar.** (1) F,W, Sp. Prerequisite: Limited to interns and residents. Seminar 1 hour.

**Perrott, Pogrel, R. Smith, N. Gordon, Dodson, Kaban**  
Seminar includes presentation of case studies, literature review, clinical pathology presentations, and occasional guest lectures. ORAL & MAX SURG

**475. Adv Clin Oral & Max Surgery.** (1.5 per week) Su, F,W, Sp. Prerequisite: Limited to oral & max. surgery residents. Hospital and clinic 40 hours.  
**Kaban & Staff**

Interns and residents, under supervision, are responsible for preparation of case records, laboratory work, preoperative patient preparation, attendance at surgery, postoperative care, and attendance at follow-up clinics. In addition, senior residents have administrative, teaching and clinical responsibilities. ORAL & MAX SURG

**476. Clinical Methods.** (4) Su. Prerequisite: Enrollment in a postgraduate specialty program or consent of instructor. Lecture 2 hours. Patient contact 2 hours.

**Pogrel & Staff**  
A history, physical, and diagnosis course for patients admitted to a hospital or surgicenter. Module 1 will consist of a didactic course, and module 2 will be a lab session where students master the techniques of clinical examination on each other. ORAL & MAX SURG

**477. Clinical Methods II.** (1-2) F Prerequisite: Completion of OMFS 476 and approval of course director. Restricted to students enrolled in a postgraduate specialty program. Lecture 2 hours, patient contact 4 hours, for 4-6 weeks.

**Pogrel, Perrott**  
Physical examination of hospitalized patients demonstrating a wide range of physical signs and symptoms. ORAL & MAX SURG

**478. Oral & Maxillofacial Surg Practice Mgmt.** (1) F Prerequisite: Enrollment in a postgraduate specialty program or consent of instructor. Lecture 2 hours.

**Pogrel, Staff**  
Provides OMFS residents a broad spectrum of practice management information such as association memberships, disability insurance, loans, OSHA requirements, computers, and billing. ORAL & MAX SURG

**489. Advanced General Dentistry in the Hospital.** (1) Su, F,W, Sp.

**Pogrel, Grimaldi, and Staff**  
Under direct faculty supervision, the trainee will provide dental consultation to hospitalized patients, treat medically compromised patients in the operating room, provide routine and complex oral surgery services utilizing conscious sedation and other pain control techniques. ORAL & MAX SURG

**489.01. Clinical Oral Surgery.** (1) F,W, Sp. Prerequisite: Enrollment in general practice residency or advanced education program in general dentistry. Clinic 3 hours.

**R. Smith**  
Course is designed to teach dentoalveolar surgery, inhalation and intravenous sedation to residents in the oral surgery clinic. The trainee takes responsibility for care of the oral surgery patient including preoperative evaluation, surgery planning, and postoperative care. ORAL & MAX SURG

**489.10. Advanced General Dental Care in the Hospital.** (1) Su, F,W, Sp. Restriction: AEGD students enrolled in the second-year program.

**Pogrel, Grimaldi, and Staff**  
This course will provide supervision of the trainee in the evaluation and care of the dental patient on the consultation, surgical, and outpatient services of the hospital. ORAL & MAX SURG

## Oral Medicine

**122. Clinical Oral Medicine.** (4) Sp. Prerequisite: Oral Pathology 127A and 127B. Lecture 4 hours.

### D. Greenspan

Introduction to recognition, diagnosis and treatment of oral manifestations of systemic diseases, and principles of clinical medicine through presentation of the mechanism, diagnosis and treatment of common organ system diseases. Will present modifications necessary for the dental treatment of patients with these diseases. STOMATOL

**130. Clinical Oral Medicine.** (2) Su. Prerequisite: Oral Medicine 122; second-year standing. Lecture 2 hours.

### Silverman

History taking, differential diagnosis, and therapeutics. Signs, symptoms, diagnosis, and treatment of oral mucosal diseases with emphasis on oncology. Management problems and solutions. STOMATOL

**139. Clinical Oral Medicine.** (0-1) Su, F, W, Sp. Prerequisite: Oral Biology 126, Oral Pathology 127A-B, Oral Medicine 122. Seminar 2 hours. Clinic 2 hours.

### Chinn, Zier and Staff

Group rotation through a five-week section: clinical diagnosis—patient presentation entailing history-taking, examination, diagnosis, treatment, and follow-up; and medicine—introduction to internal medicine and physical diagnosis. STOMATOL

**180A-B-C. Clinical Oral Medicine Conference.** (1-1-1) F, W, Sp. Prerequisite: Fourth-year standing. Conference 1 hour.

### Lozada-Nur, Silverman and Staff

Clinical pathology conference; biology, diagnosis, and treatment of various oral lesions and associated patient problems. Some oral conditions are critically re-evaluated in the light of current research advances. Specific medical knowledge is related to patient care. STOMATOL

**189. Clinical Oral Medicine.** (1-6) Su, F, W, Sp. Prerequisite: Third- or fourth-year standing and consent of instructor. Clinic 3-18 hours.

### Staff

Participation in the Oral Medicine Clinic: apply knowledge of history-taking and differential diagnosis; utilize various diagnostic techniques such as biopsy, cytology, and certain clinical pathology laboratory tests; interpret results, prescribe treatment and follow-up; hospital rounds and weekly seminar. STOMATOL

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

### Silverman, Greenspan, Lozada-Nur

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

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

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

**206. Oral Medicine Seminar.** (1-4) F, W, Sp. Seminar 1-4 hours.

### 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

**489. Advanced Oral Medicine.** (0-6.5) Su, F, W, Sp.

### Greenspan, Silverman, Lozada-Nur

Under direct supervision of faculty, the trainees will take histories, examine, diagnose, and treat patients with a variety of oral signs and symptoms. STOMATOL

**489.10. Advanced Oral Medicine.** (0-6.5) Su, F, W, Sp. Restriction: AEGD students enrolled in the second-year program.

### D. Greenspan

This course will provide clinical supervision of trainees in the diagnosis and management of patients with a variety of signs and symptoms related to oral disease. STOMATOL

## Oral Pathology

**127A-B. Introduction to Oral Pathology.** (0-5.5) F, W. Prerequisite: Oral Biology 126. Lecture 4.5 hours. Lab 3 hours.

### J. Regezi

Course correlates clinical oral pathology with histologic changes. Emphasis is placed on the microscopic and laboratory interpretation of cellular, tissue, and chemical alterations. Laboratory sessions concentrate on clinical presentation of oral diseases. STOMATOL

**198 Supervised Study.** (1-5) Su, F, W, Sp. Library research 3-15 hours.

### Daniels, Regezi, J. Greenspan

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

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

### Daniels, Regezi

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

**208A-B. Oral Pathology Seminar.** (3-3) § F, W. Seminar 3 hours.

### Daniels

Lectures and seminars on diseases of the jaws, oral mucosa and salivary glands. Disease entities are studied through review of current literature and presenta-

tion of their clinical and histopathological features, with emphasis on pathogenesis, diagnosis and management. STOMATOL

**408A-B. Oral Pathology Seminar.** (3-3) F, W. Seminar 3 hours.

### Daniels

Lectures and seminars on diseases of the jaws, oral mucosa and salivary glands. Disease entities are studied through review of current literature and presentation of their clinical and histopathological features, with emphasis on pathogenesis, diagnosis and management. STOMATOL

## Oral Radiology

**110.01. Oral Radiographic Imaging.** (2) F. Lecture 2 hours.

### Otis, Angin, Danford

This course presents radiobiologic theory and physical properties of ionizing radiation. The application of radiographic methods in dental practice, radiation safety, and normal radiographic anatomy are described. STOMATOL

**110.02. Advanced Oral Radiographic Imaging.** (2) W. Lecture 2 hours.

### Otis, Angin, Danford

Advanced oral and maxillofacial imaging techniques and interpretation emphasizing deviations from the normal are presented in this course. STOMATOL

**131. Radiographic Interpretation.** (1) Sp. Prerequisite: Oral Radiology 121. Lecture 1 hour.

### Otis

Course is a continuation of Oral Radiology 121 and is intended to broaden the scope of radiographic interpretation. Additional aspects concerning radiation biology are also included. STOMATOL

**186.01. Advanced Oral Radiology.** (0-3) F, W, Sp. Prerequisite: Oral Radiology 121. Approval of Clinic Review Committee. Seminar 1-2 hours. Clinic 0-6 hours.

**Staff**

Continuation of Oral Radiology 121 and 131 in a seminar teaching format. STOMATOL

**198 Supervised Study.** (1-5) Su, F, W, Sp. Library research 3-15 hours.

### Otis, Taylor, Angin

Library research and directed reading under supervision of a member of the faculty with the approval of the director of the program. STOMATOL

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

### Otis

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

## Orthodontics

**121. Development of Occlusion.** (1) Sp. Lecture 1 hour.

### Vargervik

Course describes the mode of growth of the craniofacial complex. General aspects of growth with clinical implications for the growing child are discussed, including the eruption of teeth and their correlation with facial growth. GR DEVEL

**131.01. Orthodontics in General Practice.** (2) Su. Prerequisite: Orthodontics 121. Lecture 2 hours.

### R. Boyd, Nielsen, G. Young

Recognition and treatment of orthodontic problems most commonly seen by the general practitioner. GR DEVEL

**131.02. Orthodontics in General Practice.** (2) F. Prerequisite: Orthodontics 121. Lecture 2 hours.

### R. Boyd, Nielsen, G. Young

Recognition and treatment of orthodontic problems most commonly seen by the general practitioner. GR DEVEL

**139. Clinical Orthodontics.** (0-1) Su, F, W, Sp.

Prerequisite: Orthodontics 121, 131.01 and 131.02. Orthodontics 131.01 or 131.02 may be taken concurrently. Clinic 3 hours.

### R. Boyd, G. Young

Evaluation and treatment of clinical orthodontic problems as experienced in general dental practice. Students will treat problems and refer others to specialists. GR DEVEL

**160. Orthodontic Concepts.** (1) Sp. Lecture 1 hour.

### R. Lee

A discussion of recognition, etiology, and principles of orthodontics for the dental hygienist. GR DEVEL

**170A-B-D-E. Orthodontic Diagnosis.** (1-1-1-1) SS1, SS2, F, W. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.

### R. Boyd

Classification, etiology, and diagnosis of malocclusion. The various diagnostic modalities used in patient evaluation and treatment planning will be presented. GR DEVEL

**170.01A-B-C. Journal Club.** (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Seminar 1 hour.

### Nielsen

A participation course in the review, analysis, and critical evaluation of the professional literature dealing with orthodontics and its related fields. GR DEVEL

**171. Orthodontics in Periodontic Prac.** (1) W. Prerequisite: Consent of instructor and enrollment in a postdoctoral specialty program. Lecture 1 hour.

### E. West

Course includes orthodontic principles and 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.

**D. Johnson**

A survey course intended to prepare the student to deal with the realities of managing an orthodontic practice. Thirty-six topics are explored and discussed by students and faculty. Several visitors representing different areas are invited to present guest seminars. GR DEVEL

**171.03. Functional Appliance Therapy.** (2) SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 2 hours.

**Scholz**

This course is designed to provide the skills necessary to select the appropriate functional appliance, design the appliance, instruct the laboratory in the making of the appliance, and manage the patient's treatment to a successful conclusion. GR DEVEL

**171.05A-B-C-D-E. Growth & Development.** (1-1-1-1-1) F, W, Sp, SS1, SS2. Lecture 1 hour.

**Nielsen**

Orthodontic applications and implications of basic craniofacial growth and development. GR DEVEL

**172A-B-C-D-E. Evaluation of Facial Form I.** (2-2-2-2-2) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 2 hours.

**Nielsen**

Use of diagnostic radiography in the evaluation of dental and facial morphology is presented. Evaluation of morphological relationships, facial growth and development, skeletal maturation, the biological response to treatment modalities, and the complex interrelationship of these factors will be discussed. GR DEVEL

**172.01A-B-C. Research Design.** (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.

**Baumrind**

Principles of statistics and research design will be explored. Topics include statistical inference, hypothesis

testing, analysis of variance, correlation, and multiple regression. The design of experimental and quasi-experimental research will be discussed and experience in computer software usage provided. GR DEVEL

**172.02. Independent Research.** (0-3) SS1, SS2.

Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor.

**Litt, Baumrind**

Independent research experience. GR DEVEL

**172.03A-B-C. Evaluation of Facial Form II.** (2-2-2) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontics or pediatric dentistry program or consent of instructor. Lecture 2 hours.

**Nielsen**

Course teaches diagnosis, treatment planning, and treatment of all types of malocclusions on a systematic basis. The biologic basis for orthodontic treatment with respect to facial growth and development and the application of differential diagnosis is presented. GR DEVEL

**173A-B-C. Orthognathic Surgery Conference.** (1-1-1) F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.

**R. Boyd**

Postdoctoral students in orthodontics, prosthodontics, and oral and maxillofacial surgery will participate in evaluating and planning treatment for patients with facial and occlusal deformities requiring combined multidisciplinary therapy. Periodic review and presentation of previously treated patients will be included. GR DEVEL

**173.01A-B-C-D-E. Orthodontic Seminar.** (3-5,3-5,3-5,3-5,3-5) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry programs or consent of instructor. Seminar 3-5 hours

**R. Boyd**

Evaluation and treatment planning of various types of malocclusion will be presented. The seminars will include discussions of various basic science, clinical science, and general biological principles, as they apply to the field of orthodontics. GR DEVEL

**173.02. Private Practice Seminar.** (0-3) F, W, Sp. Prerequisite: First-year postdoctoral Orthodontic program. Seminar 1 hour.

**Righellis**

This seminar is designed to integrate the second-year residents' postdoctoral orthodontic education with the private practice of orthodontics. GR DEVEL

**174. Biomechanics & Tooth Movement.** (2) W, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 2 hours.

**R. Boyd**

Fundamental concepts of force systems will be presented. Included are equilibrium, force equivalency, and free-body analysis. Concepts will be related to

orthodontic tooth movement, appliance design, and biological response to force application. GR DEVEL

**174.01. Periodontics & Orthodontics.** (1) Su.

Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1-2 hours.

**R. Boyd**

Current literature in periodontics and orthodontics is reviewed and discussed. Case presentations involving treatment between the two specialists are discussed and evaluated by students and faculty. Emphasis is placed on the advances in preventive procedures and their impact on orthodontic practice. GR DEVEL

**174.02. Orthodontic Techniques.** (1) SS1, SS2.

Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lecture 1 hour.

**Nielsen**

A lecture and participation course designed to familiarize the postdoctoral student with orthodontic appliances, their fabrication, and adjustment. GR DEVEL

**175A-B-C. TMJ Pain & Dysfunction Seminar.**

(0-3) F, W, Sp. Prerequisite: Resident standing in Orthodontics. Seminar 1 hour.

**R. Lee**

This course will provide the resident with the basic cognitive skills for recognizing, diagnosing, and treating patients with TMJ pain, TMJ dysfunction, and craniofacial pain in a "team environment" (i.e., prosthodontist, orthodontist, oral surgeon, psychologist, neurologist, ENT, physical therapist, etc.). GR DEVEL

**176A-B-C. TMJ Pain & Dysfunction Clinic.** (0-3) F, W, Sp. Prerequisite: Resident standing in Orthodontics. Clinic 3 hours.

**R. Lee**

This course will provide the resident with the basic clinical skills for recognizing, diagnosing, and treating patients with TMJ pain, TMJ dysfunction, and craniofacial pain in a "team environment" (i.e., prosthodontist, orthodontist, oral surgeon, psychologist, neurologist, ENT, physical therapist, etc.). GR DEVEL

**179.01A-B-C-D-E. Clinical Orthodontics I.** (0-7) SS1, SS2, F, W, Sp. Prerequisite: Enrollment in postdoctoral orthodontics or pediatric dentistry program or consent of instructor. Lab variable. Clinic 0-21 hours.

**R. Boyd**

Diagnosis, treatment, and evaluation of clinical postdoctoral orthodontic problems as experienced in modern orthodontic practice. Students will treat patients with a broad spectrum of orthodontic problems. Students will work with other specialists in the management of complex orthodontic problems. GR DEVEL

**179.03A-B-C-D-E. Clinical Orthodontics II.** (0-7) SS1, SS2, F, W, Sp. Prerequisite: Enrollment in

postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Lab variable. Clinic 0-21 hours.

**Boyd**

Diagnosis, treatment, and evaluation of clinical postdoctoral orthodontic problems as experienced in modern orthodontic practice. Students will treat patients with a broad spectrum of orthodontic problems. Students will work with other specialists in the management of complex orthodontic problems. GR DEVEL

**179.05A-B-C-D-E. Ortho General Interaction.**

(1-1-1-1-1) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral orthodontic or pediatric dentistry program or consent of instructor. Clinic 3 hours.

**R. Boyd**

Evaluation and treatment of clinical orthodontic problems, as experienced in general dental practice. Postdoctoral students will assist and supervise general dental students in the diagnosis, evaluation, and treatment of orthodontic problems. Emphasis is on the relationship between generalist and specialist. GR DEVEL

**189. Adv Orthodontics in Gen Practice.** (1-2)

Su, F, W, Sp. Prerequisite: Fourth-year standing. Clinic 3-6 hours.

**R. Boyd**

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

**410. Orthodontics for the Generalist.** (1) F

Lecture 1 hour.

**Iezman**

Lectures will emphasize diagnosis and treatment planning for patients requiring minor tooth movement. 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-E-F. Orthopaedic Surgery Clinical Clerkship—UC-SFGH-SFGH ER—VA-PMC-SSF.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and Specialties 110. Must be a senior.

**D. Bradford, T. Smith, S. Skinner**

Students 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.

**D. Bradford**

Orthopaedic surgery clinical clerkships are offered in off-campus hospitals approved by the chairperson of the department and the dean. ORTHO SURG

**140.03. Rehabilitation Medicine—S & VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Pediatrics 110.

**Carpendale**

Course will provide knowledge and skills in electrodiagnosis, neurologic rehabilitation, spinal cord injury, closed head trauma, the rheumatoid patient, orthopaedic rehabilitation, hazards of bed rest, and acute and chronic low back pain. ORTHO SURG

**150.01. Research in Orthopaedic Surgery.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111 and permission of instructor.

**Skinner**

Research project under direction of a member of the faculty. ORTHO SURG

**160.01. Fracture Conference.** (1) Su, F, W, Sp. Conference 1 hour.

**Skinner**

Fracture conference on patients admitted to the emergency room, with emphasis on X-ray findings and treatment modalities. ORTHO SURG

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

**Skinner**

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

**401. Orthopaedic Pathology.** (1) W, Sp. Prerequisite: Third- and fourth-year residents.

**UC J. Johnston**

A lecture series covering tumors and infections of the musculoskeletal system, illustrated by microscopic slides and photographs of gross specimens. ORTHO SURG

**402. Musculoskeletal System Physiol.** (1) F, W, Sp. **Staff**

Seminars cover connective tissue metabolism; muscle, bone, and joint physiology; preoperative and postoperative management of patients; wound infections; microbiology; and surgical principles. ORTHO SURG

**403. Gross & Functional Anatomy.** (1) Su. **Staff**

Course includes lectures by students and faculty on gross and functional anatomy, laboratory dissections of cadaver material, and demonstrations of surgical approaches. ORTHO SURG

**404. Orthopaedic Literature.** (1) F, W, Sp. Residents at C, DMC, SFGH, SSF, UC and VA.

**Staff**

Seminars are student presentations of selected orthopaedic surgery subjects featuring historical review complete with bibliography. They are moderated by an assigned faculty member. ORTHO SURG

**406. Orthopaedic Medical Staff Conf.** (1) Su, F, W, Sp.

**UC D. Bradford**

Clinical instruction in the care and management of orthopaedic problems in rheumatoid arthritis and allied diseases. Cases are presented by residents to attending staff and rheumatology consultants. ORTHO SURG

**407. Orthopaedic Surgical Conference.** (1) Su, F, W, Sp.

**H Slabaugh**

Seminars include presentation of problem cases by residents for consideration of diagnosis, treatment, and discussion by the attending staff. ORTHO SURG

**408. Orthopaedic Surgical Conference.** (1) Su, F, W, Sp.

**SFGH Staff**

Selected problems are illustrated by cases treated or under treatment. Cases are presented by the resident staff and discussed by members of the attending staff. ORTHO SURG

**409. Orthopaedic Surgical Conference.** (1) Su, F, W, Sp.

**SSF Skinner**

Conference with emphasis on children's problems in which residents make case presentations of inpatients for review and of new patients for consideration of diagnosis and therapeutic plan. ORTHO SURG

**411. Orthopaedic Surgical Conference.** (1) Su, F, W, Sp.

**VA Maurer**

Conference includes review of admissions and discharges of hospitalized patients by the attending and consulting staffs. Cases are presented by the residents. ORTHO SURG

**412. Orthopaedic Clinical Seminar.** (1) Su, F, W, Sp.

**CHMC Debenham, H Slabaugh, SM Jensen**

Seminars are held in rotation at each of these hospitals with residents from all three hospitals attending. They include literature review and demonstrations related to surgical approaches, anatomical dissections, diagnosis, and treatment. ORTHO SURG

**414. Hand Surgery Conference.** (1) Su, F, W, Sp. **Staff**

Conference includes presentation of case studies in hand surgery with central subject for each session. ORTHO SURG

**451. Clinical Pediatric Orthopaedics.** (1.5 per week) Su, F, W, Sp.

**C L. Larsen, CHMC Debenham, SSF Ashley**

Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques and consultations. ORTHO SURG

**452. Traumatic & Adult Orthopaedics.** (1.5 per week) Su, F, W, Sp.

**SFGH L. Day, SM Jensen, VA Maurer,**

**H Slabaugh**

Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations. ORTHO SURG

**455. Clinical Sports Medicine.** (1) Su, F, W, Sp. **J. Glick and Staff**

Clinical instruction in the care and management of orthopaedic problems in athletic injuries. Course consists of clinical practice under supervision as well as didactic lectures every third week. ORTHO SURG

**490. Clinical Orthopaedics—SFGH.** (1.5 per week) Su, F, W, Sp.

**Staff**

Residents-I rotate through orthopaedic wards and follow-up clinics. They are responsible for patient care under the direction of the attending staff, including history-taking, physical examinations, X-ray conferences, and consultations. ORTHO SURG

## Otolaryngology

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

**Core Clerkship—**Surgery 110 and 111 include lectures and case demonstrations on the examination and diagnosis of otolaryngological diseases, particularly those related to trauma and infection. Instruction is given in the examination and diagnosis of ward and clinic patients with otolaryngological surgical diseases.

**140.01A. Adv Otolaryngology Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110.

**Lee**

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.

**Lanser**

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

**Lee**

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

**140.01F. Clinical Clerkship—MZ.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

**Singer**

This clerkship is in general otolaryngology and includes the 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.

**Schindler**

Clinical clerkships in off-campus hospitals approved by the chairperson of the department and the dean. OTOLARYN

**140.03. Otology and Neurotology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Third or fourth year (fourth preferred).

**Jackler, Schindler**

A course in basic audiometric and vestibular testing; diagnosis and management of diseases of the ear and skull base; and experience with surgery for hearing restoration, treatment of vertigo, and for removal of ear and skull base neoplasms. OTOLARYN

**150.01. Research in Otolaryngology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Must be third- or fourth-year medical student. Must have approval of Chairman, Dean, and research faculty involved.

**Jackler**

Research project under the direction of a member (or members) of the Department of Otolaryngology. OTOLARYN

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

**R. Schindler**

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

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

**Merzenich**

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

**400. Didactic Lectures.** (2) Su, F, W, Sp.

**Boles**

Lectures cover the anatomical, physiological, and clinical aspects of otolaryngology. OTOLARYN

**401. Head & Neck Surgical Anatomy.** (1) Su. Seminar 2 hours.

**Kaplan**

Didactic sessions in the surgical anatomy of the head and neck. Supplemental dissections included. OTOLARYN

**404. Staff Rounds.** (2) Su, F, W, Sp.

**Boles**

Weekly seminars are held with discussion of current problems concerning diagnosis and management of patients with references to current literature, modern theory, and controversial aspects. OTOLARYN

**406. Tumor Conference.** (1) Su, F, W, Sp.

**UC Kaplan**

Conference includes presentation of patients, study of histories, and discussion of the treatment of the patient in light of modern progress in the field. OTOLARYN

**407. Head & Neck Plastic Surgery.** (1) Sp. Seminar 2 hours.

**Maas**

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.

**Lee**

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.** (2) W. Lecture 2 hours.

**Heyneman, Lim**

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. EPID & BIostat

## Pathology

**101. General & Systemic Pathology.** (4) F. Prerequisite: Substantive courses in anatomy, biochemistry, physiology, histology, microbiology (or concurrent enrollment), concurrent enrollment in Medicine 132A. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours. Lab 2 hours.

**Ferrell**

Mechanisms and language of disease are discussed, with emphasis on cell injury, inflammation, infectious agents, repair, regeneration, hemodynamic derangements, neoplasia. Recent advances and classical concepts of diseases as they affect the heart and blood vessels, lungs, gastrointestinal tract are presented. PATHOLOGY

**102. Systemic Pathology.** (3) W. Prerequisite: Pathology 101. Lecture 3 hours. Lab 2 hours.

**Ferrell**

Recent advances and classical concepts of diseases as they affect the following organ systems are presented: pancreas, liver, central nervous system, kidney, endocrine system, skin. Emphasis will be on correlation of functional and morphologic characteristics of diseases of organ systems. PATHOLOGY

**103. Systemic Pathology.** (3) Sp. Prerequisite: Pathology 102. Lecture 3 hours. Lab 2 hours.

**Ferrell**

Recent advances and clinical concepts of diseases as they affect the following organ systems are presented:

reproductive systems, skeletal system, hematopoietic system, and lymph nodes. Emphasis will be on correlation of functional and morphologic characteristics of diseases of organ systems.

PATHOLOGY

**126. General Pathology.** (4) F. Prerequisite: Substantive courses in biochemistry, physiology, histology, microbiology (first quarter, concurrent) or an introduction to immunology. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours. Lab 2 hours.

**Friend**

Mechanisms and language of disease are discussed, with emphasis on the dynamic nature of fundamental disease processes: cell injury, immunopathology, inflammation, responses to infectious agents, repair, regeneration, hemodynamic derangements, genetic disorders, disturbances of cell growth, and neoplasia. PATHOLOGY

**135. General Pathology.** (3) F. Prerequisite: Substantive courses in biochemistry, physiology, histology, microbiology (first quarter, concurrent) or an introduction to immunology. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours.

**Friend**

This course is identical to the lecture portion of Pathology 126. PATHOLOGY

**135.01. General Pathology.** (3) F. Prerequisite: Enrolled in academic program in Physical Therapy and completion of prerequisite coursework in human physiology and microbiology. Open only to students enrolled in the curriculum or by consent of program director. Lecture 3 hours.

**Friend**

Mechanisms and language of diseases are discussed, with emphasis on the dynamic nature of fundamental disease processes such as cell injury, immunopathology, inflammation, response to infectious agents, repair and regeneration, hemodynamic arrangements, genetic disorders, disturbances of cell growth and neoplasia. PATHOLOGY

**150.01. Surgery and Autopsy Pathology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Pathology 101. Consent of instructor. Enrollment limited.

**Ferrell**

This clerkship is designed to acquaint students in the available techniques of tissue analysis and their application to diagnosis and patient care. The student is given training and responsibilities in surgical and/or autopsy pathology similar to those of first-year residents.

**150.02. Off-Campus Pathology Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Pathology 101 and 102.

**Bainton**

Clinical clerkships in off-campus hospitals approved by the chairperson of the department and the dean. PATHOLOGY

**150.05. Research.** (1.5 per week) Su, F, W, Sp. **McKerrow, Parslow, Yen**

The staff of the Pathology Department have various ongoing research interests and have a number of projects for students to work on. Requires approval of the Dean and the Department. Obtain necessary forms from the Office of Curricular Affairs. PATHOLOGY

**150.06. Surgical Pathology-VMC.** (1.5 per week) F, W, Sp. Prerequisite: Pathology 102 and consent of instructor.

**H. M. Price, Bezmalinovic**

Clerkship is designed to acquaint students with available techniques of tissue analysis, from light microscopic to micromolecular levels, and their application in diagnosis and surgical care. Experience includes postmortem examination, review of surgical biopsies and frozen sections, electron microscopy. PATHOLOGY

**150.07. Pathology Research/Service** (1.5) Su, F, W, Sp. Prerequisite: Pathology 101, 102, 103 and consent of dean of the department. Third-year standing. One-year program starting in the summer quarter.

**Ferrell**

This one-year course, with stipend (starting in Summer quarter), acquaints student-fellows with techniques in autopsy and surgical pathology and their application to diagnosis and patient care, as well as research. The training and responsibilities are similar to residents'. PATHOLOGY

**160. General Pathology.** (1) F. Prerequisite:

Courses in biochemistry, physiology, histology, microbiology, and an introduction to immunology. Lecture 1 hour for ten weeks.

**Friend**

Mechanisms of disease with emphasis on dynamic nature of fundamental disease processes: cell injury, immunopathology, inflammation, responses to infectious agents, repair, regeneration, hemodynamic derangements, disturbances of cell growth, and neoplasia. DENT PUB HLTH

**170.01. Clinical Cytology.** (3) Sp. Prerequisite: Anatomy 102, Pathology 101 and 102.

**E. King, E. Hill** Lectures on basic fundamentals of cytology, normal cells, malignant cells, abnormal non-malignant cells, collection, and preparation methods. Microscopic examination of specimen and correlation of cellular and tissue pathology with colposcopic and clinical

findings on examination of the patient. PATHOLOGY

**170.04. Anatomy Pathology Conference.** (1) F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. Conference 1 hour.

**Staff**

Presentation of selected current cases seen in the hospital pathology laboratory. Discussion of pathological findings, and correlation with clinical and radiologic findings and treatment. PATHOLOGY



**170.05. Neuropathology.** (2) W. Prerequisite: Pathology 102. Third- or fourth-year standing. Lecture and seminar 2 hours.

**D. Davis, DeArmond**

Emphasis is placed on clinicopathological correlation of neurological diseases by means of study of gross and microscopic material and participation in conferences. PATHOLOGY

**170.08. Studies in Pathology.** (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department.

**Staff**

Studies in pathology at other institutions with the approval of the chairperson of the department. PATHOLOGY

**170.09. Clinicopathological Weekly Case.** (1) W, Sp. Prerequisite: Pathology 101, enrolled in Pathology 102/103. Restriction: Second-year medical students. Seminar 1 hour.

**Margaretten, Isenberg.**

A weekly case discussion conference at which students will generate a differential diagnosis, examine gross and microscopic pathologic specimens, and discuss the pathophysiology of the case. PATHOLOGY

**170.10. Immunological Mechanisms in Human Disease.** (1.5) F. Prerequisite: one year basic science courses (graduate, medical, or dental) or consent of instructor. Lecture 1 hour. Seminar 0.5 hour.

**McKerrow**

An introductory course in immunopathology and clinical immunology that will review how basic immunological research is applied to diagnosing and understanding human disease. Topics will include transplant immunology, immunoparasitology, immune deficiency diseases, tolerance, and autoimmune diseases. PATHOLOGY

**170.11. Problems of Medical Delivery in White Androcentric Society.** (1) W. Seminar 1 hour.

**Stern**

Feminist readings: how language can be a tool of oppression; how power structure of society maintains hegemony by defining "pathology"; how women, people of color, and gays are marginalized in this context. Explores how doctor-patient dialogue interferes with medical care. PATHOLOGY

**180.01. General Pathology.** (3) F. Prerequisite: Anatomy 118. Lecture 3 hours.

**Stern**

This course is identical to the lecture portion of Pathology 126. Elective in the dental hygiene curriculum. PATHOLOGY

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

**Staff**

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

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

**Staff**

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

**209. Applied Pathology.** (3) § W. Prerequisite: Microbiology 126A-B and Pathology 126 or equivalents.

**J. Greenspan**

Weekly seminars are designed to provide students with an understanding of the basic principles of pathology. Emphasis is placed on research; students will critically review current literature in the field, under faculty supervision. PATHOLOGY

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

**Parslow**

A laboratory rotation course, to familiarize students with various approaches to experimental pathology and research in the basic medical sciences, particularly in relationship to human disease processes. Intended primarily for new graduate students. PATHOLOGY

**225. Connective Tissue Research Sem.** (4) § F, W, Sp. Seminar 4 hours.

**R. Stern**

Students and faculty review literature and discuss current concepts and experiments in connective tissue research. Included are role of structural proteins, such as collagen and elastin in pathology, cell matrix, interactions in developmental biology and morphogenesis. PATHOLOGY

**230. Experimental Pathology Seminar.** (2) § F, W, Sp. Prerequisite: Permission of the graduate advisor of the department. Lecture 1 hour. Seminar 1 hour.

**Parslow**

Presentation of current research by graduate students. Topics in pathology and disease mechanisms. Faculty from basic and clinical sciences will discuss current research in a disease process. Advanced reading in that disease will be assigned before class. There will be formulation of test-hypothesis and discussion of an experimental design lead by a student leader at each session. PATHOLOGY

**240. Concepts in Parasitic Diseases.** (4) § W. Lecture 2 hours. Seminar 2 hours.

**Bainton, Sakanari, Deneris**

This course is for students interested in learning current issues on parasitic diseases (drug design, public health aspects, biochemical parasitology). Invited speakers give seminars on their area of expertise. Students evaluate papers relevant to concepts presented by the speakers. PATHOLOGY

**250. Research.** (1-8) § F, W, Sp.

**Staff**

PATHOLOGY

**297. Molecular Biology of Human Disease.** (3) § Sp. Prerequisite: Open to graduate students, house-

staff, and MSTP students. Lecture 1 hour, seminar 2 hours.

**McKerrow**

The course is designed to provide students with an up-to-date summary of our knowledge of atherosclerosis with particular emphasis on application of techniques of molecular and cell biology to understand both the pathogenesis and genetics of the disease. PATHOLOGY

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

**Staff**

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

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

**Staff**

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

**301. Teaching Practicum.** (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 2 hours.

**Ferrell**

Practice in teaching pathology under faculty supervision. Students supervise laboratory work, conduct conferences, and assist in preparing and grading examinations. Responsibilities are assigned according to the individual's stage of development. PATHOLOGY

**400. Pathology & Lab Med Seminar.** (1) F, W, Sp. Interns and residents. Prerequisite: Medicine 110 and Surgery 110 or consent of instructor. Seminar 1 hour.

**Staff**

Recent developments in diagnosis and research in pathology and laboratory medicine are discussed by faculty and guest speakers. PATHOLOGY

**401. Special Topics Seminar.** (Units to be arranged) Su, F, W, Sp. Interns and residents.

**Staff**

Seminars focusing upon the pathology of specific organ systems are conducted by specialists. Emphasis is on the correlation between clinical manifestations of the disease and pathologic findings. PATHOLOGY

**402. Pathology Research.** (1-8) Su, F, W, Sp. Interns and residents.

**Staff**

Students, under supervision, pursue original investigation in pathology and allied subjects. Investigators review the literature, make observations, and correlate physiological with pathological concepts. PATHOLOGY

**405. Dermatopathology.** (2) F, W, Sp. Prerequisite: Pathology 101 or equivalent by consent of instructor. Lab 2 hours. Seminar 1 hour.

**Sagebiel**

Survey of inflammatory and neoplastic skin diseases by study of histopathological changes and discussion with emphasis on clinical-pathologic correlations. PATHOLOGY

**450. Pathologic Anatomy.** (5-10) Su, F, W, Sp. Required for interns; elective for residents.

**Staff**

Theory and methodology of pathologic anatomy, interpretation and correlation of data, and study of literature. PATHOLOGY

**455. Electron Microscopy Seminar.** (1) W. Prerequisite: Medicine 110 and Surgery 110 and consent of instructor. Lecture 1 hour. Elective for interns and residents.

**Staff**

Course covers basic electron microscopic techniques, indications for use of electron microscopy in pathologic diagnosis, and the specific ultrastructural features of normal and diseased tissue. Emphasis is placed on renal biopsy and tumor diagnosis. Documented attendance is required. PATHOLOGY

**495. Pathologic Anatomy.** (1.5 per week) Su, F, W, Sp. Required for interns.

**Staff**

Theory and methodology of pathologic anatomy, interpretation and correlation of data, and study of literature. PATHOLOGY

## Pediatric Dentistry

**130B-C. Pedodontic Procedures-UC.** (1, 2) W, Sp. Prerequisite: Satisfactory completion of Operative Dentistry 125 A-B-C. Lecture W. 1 hour; Sp. 2 hours

**Braham**

Lecture course presenting dental procedures unique to, or modified to meet, the needs of the child. Examination, diagnosis, treatment planning, pain control and management, restorative procedures, preventive orthodontics, diet analysis, and caries control are stressed. GR DEVEL

**139. Clinical Rotation.** (0-1) Su, F, W, Sp. Prerequisite: Third-year standing. Clinic 3 hours per week.

**Braham and Staff**

This clinic rotation will introduce students to examination of the child patient, treatment planning, prevention instruction, dietary analysis and counseling, and performing operative procedures. Proper management of the child patient will be stressed. GR DEVEL

**149. Advanced Clinical Rotation-UC & CHMC.** (0-2) Su, F, W, Sp. Prerequisite: Fourth-year standing and satisfactory completion of Restorative Dentistry 139. Clinic 6 hours per week.

**Braham, and Staff**

Oral examination, treatment planning, and treatment of children, including behavioral management. Time will be spent at Pediatric Dental Clinics at UCSF and Children's Hospital Medical Center, Oakland. Course will involve clinic, seminar, and treatment in hospital operating room with general anesthetic. GR DEVEL

**170D-E. Intro to Ped Dent.** (2-2) SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 2 hours.

**Rothman and Staff**

Course is offered to the incoming postdoctoral student as an introduction to the philosophies and techniques of rendering clinical treatment to patients in pediatric dentistry. GR DEVEL

**171A-B-C-D-E. Advanced Ped Dent Sem.** (5-5-5-5-5) F,W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor. Seminar 5 hours.

**M. Morris and Staff**

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

**172D-E. Pediatric Physical Diagnosis.** (1-1) SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 1 hour.

**Rothman**

Course is designed to provide knowledge of clinical pediatrics. It will include didactic and clinical experiences in history-taking and physical diagnosis. GR DEVEL

**172.11A-B-C. Pediatric Medicine.** (1-1-1) F,W, Sp. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Seminar 1 hour.

**M. Morris**

Course will provide information on various topics of health care of children. Emphasis will be placed on the etiology, diagnostic procedures, prognosis, and management of common pediatric conditions. GR DEVEL

**173C. Clinical Uses of Fluorides.** (2) Sp. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Lecture 1 hour. Seminar 1 hour.

**M. Morris**

Course gives a comprehensive update on the clinical uses of fluoride in pediatric dentistry. It is a combined lecture and seminar course. A term paper on an assigned topic is also required. GR DEVEL

**173.11B-C. Dentistry for the Disabled.** (1-1) W, Sp. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor.

**M. Morris and Staff**

Course provides knowledge of the congenital and acquired disabilities in children and adolescents. There is emphasis on the etiology, diagnosis, medical, and dental management, and prognosis of these conditions. GR DEVEL

**174A-B-C-D-E. Lit Survey in Ped Dent.** (1-1-1-1-1) F,W, Sp, SS1, SS2. Prerequisite: Enrollment in

postdoctoral pediatric dentistry or orthodontic program or consent of instructor.

**M. Morris and Staff**

Course reviews the latest issues of pediatric dentistry and related journals and critically evaluates the philosophies, clinical treatment, and applications to the practice of dentistry for the child patient. GR DEVEL

**176A-B-C-D-E. Practice Teaching.** (1.5-1.5-1.5-1.5-1.5) F,W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Seminar 1 hour. Clinic 1.5 hours.

**Morris and Staff**

Student teaches junior and senior dental students in the pediatric dentistry clinics. In addition, the student will teach selected topics in a seminar format. GR DEVEL

**177A-B-C-D-E. Hospital Dentistry.** (3-3-3-3-3) F,W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Seminar 1 hour. Clinic 6 hours.

**M. Morris and Staff**

Course is specifically designed to provide the student with a working knowledge of dental rehabilitation procedures in a hospital operating room under general

anesthesia and the associated hospital protocol. G 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. **M. Morris and Staff** A multiplicity

of medications, routes of administration, and monitoring techniques will be employed under the direct supervision of a faculty person. The student will administer the medications and monitor the patients before, during, and after the procedure. GR DEVEL

**178A-B-C-D-E. Research Seminar.** (2-2-2-2-2) F,W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor. Lab 3 hours. Seminar 1 hour.

**M. Morris and Staff**

Course will cover how to critically review research literature and do a term paper on a selected subject. It will discuss research methodologies and the development of a protocol and completion of a research project. GR DEVEL

**179A-B-C-D-E. Advanced Clinical Ped Dent.** (1-10) F,W, Sp, SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry program or consent of instructor. Clinic 3-30 hours.

**M. Morris and Staff**

Course covers the clinical activities of the student and has the broad objective of providing a wide experience in all phases of contemporary pedodontic diagnosis and treatment. Students must demonstrate clinical competencies in care for the special child. GR DEVEL

**179.12D-E. General Anesthesia Rotation-CHMC.** (4-4) SS1, SS2. Prerequisite: Enrollment in postdoctoral pediatric dentistry or orthodontic program or consent of instructor. Clinic 30 hours.

**Rothman and Staff**

A practical rotation in the operating room of the Children's Hospital Medical Center of Northern California is provided under the supervision of senior staff anesthesiologist. GR DEVEL

**180.02A-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

**186. Adv Pediatric Dent Seminars** (1) F,W, Sp. Prerequisite: Completion of third-year Pediatric Dentistry Lecture Course 130. Approval of instructor in charge of course. Seminar 1 hour for 8-10 weeks.

**Ramos**

Seminars on advanced pediatric dentistry, covering behavior and behavioral management techniques, advances in pediatric dental restorative techniques and materials, dental management of the special patient, preventive orthodontics. Emphasis on literature reviews. Course is of particular interest for students interested in the specialty of Pediatric Dentistry. GR DEVEL

**410. Advanced Pediatric Dentistry** (1) F. Lecture 1 hour.

**Katz**

This lecture series will focus on behavior management of children in the outpatient and inpatient settings. GR DEVEL

## Pediatrics

**100. Medical Genetics.** (2) F

**Epstein, Packman, Golbus**

This course will explore the role of genetic factors in the causation of human diseases, particularly those genetically influenced disorders which are most frequent in occurrence, and approaches to the diagnosis, management, and counseling of genetic disorders. PEDIATRICS

**110. Ped Core Clerkship-UC-SFGH-L-C.** (1.5 per week) Su, F,W, Sp. Prerequisite: Core curriculum in basic sciences.

**Loeser**

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.

**Applebaum**

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.

**Applebaum, Mohr**

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

**140.01J. Intensive Care Nursery—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Phibbs, Sola**

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

**140.01M. Pediatric Critical Care—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. One student per rotation.

**Soifer and Staff**

Students follow selected patients in the Pediatric Intensive Care Unit and participate in patient presentations, management conferences, and teaching rounds. Emphasis is on cardiovascular and pulmonary physiology in management of critically ill pediatric patients. Students become familiar with relevant literature concerning problems of patients being followed. PEDIATRICS

**140.01N. Adv Inpatient Pediatrics** (1.5/wk) Su, F, W, Sp. Prerequisite: Pediatrics 110, Medicine 110. Restricted to 1-2 students per block.

**Shapiro**

To provide exposure to typical pediatric inpatients in a setting where the student assumes primary responsibility for initial evaluations, diagnostic procedures, and ongoing management of patients. Students are assigned patient work-ups, participate fully in team work and teaching rounds, attend conferences, and are on night call with the resident. PEDIATRICS

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

**Shapiro**

Clinical clerkship in off-campus hospitals approved by the chairperson of the department and the dean. PEDIATRICS

**140.03. Outpatient Pediatrics—VMC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Bayatpour**

Experience caring for sick and well children with 27,000 patient visits/year. Preventive medicine and anticipatory guidance along with principles of growth and development. All activities closely supervised by either senior residents or faculty. Daily morning conferences, chart rounds, assigned readings. PEDIATRICS

**140.04. Pediatric Cardiology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Open to UCSF students only.

**Van Hare**

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 and Staff**

Working experience with a pediatrician on the clinical faculty as the pediatrician sees patients in the office and in the hospital. Student may select time in small group, large group, or subspecialty practice, or a combination of these. PEDIATRICS

**140.07. Developmental Pediatrics in Fresno.** (1.5 per week) W, Sp. Prerequisite: Pediatrics 110.

**D. M. Snyder**

Students learn to identify children with developmental disabilities and direct their remediation to allow for achievement of their greatest potential. Various settings are used in acquiring skills in developmental assessment. PEDIATRICS

**140.08. Ambulatory Pediatrics.** (1.5 per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**J. E. Anderson**

Clinical experience in teaching hospital's busy pediatric clinic, working as member of health care team. Supervision from attending physicians with emphasis on developmental/behavioral approach to pediatric practice. Continuity of care is encouraged and opportunity exists to follow patients admitted to ward. PEDIATRICS

**140.10. Pediatric Hematology/Oncology—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 outpatient clinics, ward rounds, 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.

**Gerdson, Hardy**

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—VCF.** (1.5 per week) Su. Prerequisite: Medicine 110, Pediatrics 110, and consent of instructor.

**Simon**

Students work in a Diabetes Summer Camp learning the clinical management of diabetes. Students have an opportunity to participate in the operation of the camp program and in the treatment 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. Matthey, Zoger**

Participation in management of patients with solid tumors and leukemia; attendance at pediatric tumor board, ward rounds, and outpatient clinic. Special emphasis on psychosocial problems; supervised reading and discussion with preceptor. PEDIATRICS

**140.16. Pediatric Nephrology—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**D. E. Potter**

Introduction to general nephrology with children having nutritional problems, ESRD, and chronic renal failure. Post-transplant and dialysis consultations, new cases from the nursery, and cases requiring TPN. Research projects may be arranged with instructors. PEDIATRICS

**140.17. Genetics—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**C. Epstein, M. Golabi, S. Packman**

Evaluation and management of children and adults with hereditary (including cytogenetic) diseases, with particular emphasis on genetic counseling, patterns of human malformation, and the biochemical and genetic mechanisms involved in the pathogenesis and transmission of these conditions. PEDIATRICS

**140.21. Pediatric Pulmonary & Allergy.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Cropps, Shames**

Students participate in the activities of the pulmonary and allergy service, in the outpatient and inpatient settings, as well as conferences, journal clubs, etc. The course will emphasize clinical experience with common pediatric pulmonary problems, e.g., asthma, cystic fibrosis. PEDIATRICS

**140.26. Comprehensive Pediatric Care—KP.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Shum**

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.

**Shum**

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

**140.30. Gastroenterology & Nutrition.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Heyman, Thaler**

**tudents**

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.

**Bayatpour**

Opportunity to develop and perfect skills in history-taking, physical examination, case write-ups, presentations, and procedures. Supervised problem-oriented learning/teaching environment fosters basic diagnostic and management skills. Conferences, case work-ups and presentation, night call with resident, and assigned reading. PEDIATRICS

**140.33. Pediatric Immunology/Rheumatology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Pediatrics 110 and Medicine 110, and consent of instructor.

**Wara, Cowan**

Evaluation and care of children with primary immunodeficiency diseases and rheumatologic disorders. Emphasis on ontogeny of immune response as it relates to immunodeficiency, immunologic dysfunction involved in pathogenesis of the disorders, laboratory studies required for diagnosis, and care of children with chronic disease. PEDIATRICS

**140.34. Medical Genetics.** (1.5 per week) Su, F, W, Sp. Prerequisite: 4th-year standing.

**Curry**

Experience will be gained in medical genetics, including dysmorphology, biomedical genetics and prenatal diagnosis. Rotation will provide general exposure to all these areas and give a basic understanding of methods used to reach specific genetic diagnoses and exact prenatal detection course for future pregnancies. PEDIATRICS

**140.35. Infectious Disease—UC & SFGH** (1.5 per week) Su, F, W, Sp. Prerequisite: Pediatrics 110.

**S. Kohl**

Students will learn principles of diagnosis and management of common infectious conditions, infectious complications in the immunocompromised host, and neonatal infections; will learn to properly interpret microbiologic data and use the microbiology laboratory. PEDIATRICS

**140.37. Clinical Clerkship in Adolescent Medicine.** (1.5 per week) Su, F, W, Sp. Prerequisite: Completion of basic clinical clerkships. Open to fourth-year medical students only.

**Irwin, Shafer**

Clinical rotation on outpatient/inpatient adolescent medical service. Clinical experience will include general adolescent clinic, adolescent gynecology clinic, and inpatient consultation on adolescent medical and psychiatric wards. PEDIATRICS

**140.38. Behavioral & Developmental Pediatrics.** (1.5/week) Su, F, W, Sp. Prerequisite: Pediatrics 110 and consent of instructor. Lecture 1 hour, Conference 10 hours, clinic 4 hours.

**Tanner**

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

**150.04. Research in Pediatrics—UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

**Shapiro 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.

**Shapiro**

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

**180.01A-B-C-D. Adolescent Development.** (2-2-2-2) § F, W, Sp, Su. Prerequisite: Consent of instructor. Seminar 2 hours.

**Irwin**

A four-quarter course covering the physiologic, psychologic, cognitive and social development of adolescence. Also included is material on sexuality,

nutrition, family interaction, cultural differences, legal issues, school behavior, substance abuse and psychiatric problems, and common medical problems. PEDIATRICS

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

**Grumbach and Staff**

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

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

**Grumbach**

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

**400. Staff Conference.** (1.5) Su, F, W, Sp. Interns and residents.

**UC Rudolph**

Conferences include house staff preparation and presentation of patient case histories with reference to the literature, laboratory work, and special studies. Faculty members and consultants from other departments as well as other universities discuss recent developments in their respective fields. PEDIATRICS

**401. Pediatric-Roentgenology Conf.** (1.5) Su, F, W, Sp. Interns and residents.

**UC Gooding**

Conferences include review and discussion of recent X-ray studies of pediatric cases in the wards and outpatient service. PEDIATRICS

**402. Clinical Seminar.** (1.5) Su, F, W, Sp.

**UC Rudolph**

Seminar includes review and discussion of selected cases of unusual interest, reports on special topics with review of recent literature, and clinicopathological conferences on pediatric cases. PEDIATRICS

**420. Family Interviewing Seminar.** (1) Su, F, W, Sp. Prerequisite: Graduate-level student in health sciences health care providers only. Consent of instructor. Seminar 2 hours.

**Baum and Staff**

Seminar topics include family systems, communication patterns, family interviewing, presenting a difficult diagnosis, psychosomatic illness, chronic illness, and common behavioral problems. Teaching methods include group discussion, role play, and video taping. Emphasis is placed on learning through experience. PEDIATRICS

**421. Behavioral Research Seminar.** (1) F, W, Sp. Prerequisite: Graduate-level student in health sciences. Consent of instructor. Seminar 2 hours alternate weeks.

**Boyce and Staff**

A survey of basic principles in epidemiologic research, with special emphasis on issues relevant to behavioral pediatrics. PEDIATRICS

**422. Behavioral/Developmental Core Curriculum.** (1.5) F, W, Sp. Prerequisite: Post-M.D. or graduate nursing students and consent of instructor. Seminar 6 hours.

**P. Kaiser and Staff**

Lectures and discussion of child development theory, clinically relevant research, and related common behavioral issues. Emphasis is on applicability of behavioral pediatrics in clinical practice. Includes screening, temperament, attachment, and hospitalization. Supervised experiences at daycare centers and schools. Reading assignments. PEDIATRICS

**423. Child Development Literature Seminar.** (1) F, W, Sp. Prerequisite: Graduate-level student in health sciences and consent of instructor. Seminar 1.5 hours alternate weeks.

**Tanner and Staff**

This seminar presents classic theoretical and current research-based formulations of child development. Assigned literature readings are essential to seminar participation. Material covering pregnancy through school age years is presented over two-year cycle. PEDIATRICS

**424. Neurodevelopmental Assessment and Therapy.** (1) W. Prerequisite: By instructor approval; pediatric residents and fellows in behavioral/developmental pediatrics. Lecture 1 hour. Lab 1 hour.

**Tanner and Staff**

Overview of theories and principles of neuromotor development and treatment modalities available for children with developmental disabilities. Includes assessing normal and abnormal sensory-motor development, neurodevelopmental therapy, sensory integration, pre-speech, and feeding therapy. Lecture, discussion, audiovisual aids, and patient demonstration. PEDIATRICS

**450. Clinical Pediatrics—UC.** (1.5 per week) Su, F, W, Sp. Interns and residents.

**UC Rudolph**

Residents, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis and treatment. In addition, the chief resident has certain administrative, teaching, and clinical responsibilities. PEDIATRICS

**451. Clinical Pediatrics—SFGH** (1.5 per week) Su, F, W, Sp. Residents.

**M. Grossman**

Residents, under supervision, are responsible for patient care in the wards, communicable disease section, and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis, and treatment. Emphasis is on diagnosis and management of infection trauma, and pediatric emergencies. PEDIATRICS

**462. Clinical Primary Care.** (1.5 per week) Su, F, W, Sp.

**Rudolph**

Interns in the Primary Care Track of Pediatrics are responsible for patient care in a multispecialty primary

care clinic. Other rotations include those common to the regular Pediatrics Internship Program as well as related clinical services such as dermatology, otolaryngology. PEDIATRICS

**463. Clinical Primary Care.** (1.5 per week) Su, F, W, Sp.

**Rudolph**

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

**490. Clinical Pediatrics—SFGH** (1.5 per week) Su, F, W, Sp.

**M. Grossman**

Interns rotate through newborn nursery, pediatric wards and clinic, communicable diseases ward, and emergency room. They are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examination, laboratory tests, and consultation. PEDIATRICS

**495. Clinical Pediatrics.** (1.5 per week) Su, F, W, Sp. Interns.

**UC Grumbach**

Interns, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis, and treatment. PEDIATRICS

## Periodontology

**130. Periodontal Therapy.** (1) Su. Prerequisite: Perio 129. Lecture 1 hour.

**Levine**

Introduction to the diagnosis and treatment of periodontal diseases. Emphasis will be placed on examination of the patient, diagnosis and classification of diseases of the periodontium, and treatment planning. The rationale and techniques for treatment of gingivitis and early chronic periodontitis will be discussed. STOMATOL

**131. Periodontal Therapy.** (1) F. Prerequisite: Perio 130. Consent of instructor. Lecture 1 hour.

**Levine**

Diagnosis and treatment of periodontal diseases, acute lesions, less common disease of the periodontium, and moderate to advanced periodontitis. Emphasis on diagnosis and treatment planning, considerations for specialty referral when appropriate. Rationale and techniques for treatment of moderate to advanced chronic periodontitis. STOMATOL

**132. Periodontal Therapy.** (2) W. Prerequisite: Perio 131. Lecture 2 hours.

**Levine**

Surgical periodontics and rationale for periodontal therapy. Emphasis will be placed on the rationale for various surgical modalities of treatment for periodon-

tal diseases. Discussion of controversial treatment programs and medicolegal aspects of periodontal therapy will be included. STOMATOL

**139. Clinical Periodontal Therapy.** (0-4) Su, F,W, Sp. Prerequisite: Perio 129. Clinic 3 hours. Seminar 1 hour.

**Levine**

Treatment of a variety of periodontal diseases under the direct supervision of faculty. Small seminar and discussion groups will review diagnosis and treatment modalities. STOMATOL

**149. Clinical Periodontal Therapy.** (0-4) Su, F,W, Sp. Prerequisite: Perio 139. Clinic 12 hours.

**Levine**

Treatment of a variety of periodontal diseases in a general practice environment under the direct supervision of faculty. STOMATOL

**162. Periodontal Therapy.** (1) W. Prerequisite: Perio 161. Lecture 1 hour.

**Levine**

Surgical periodontics and rationale for periodontal therapy. Emphasis will be placed on the rationale for various surgical modalities of treatment for periodontal diseases. Discussion of controversial treatment programs and medicolegal aspects of periodontal therapy will be included. STOMATOL

**170A-B-C. Histopathology of Periodontium.** (2-2-2) F,W, Sp. Lecture 1 hour. Lab 3 hours.

**Dienstein (F,W), Ryder (Sp)**

Dynamics of inflammation and its role in the periodontal tissues. STOMATOL

**177. Periodontal Surgery Seminar.** (2) F,W, Sp. Prerequisite: D.D.S. degree and consent of instructor. Lecture 2 hours.

**Raust**

Study in depth with literature review and seminar discussions on surgical techniques used to treat lesions involving the hard and soft tissue of the periodontium. STOMATOL

**180. Periodontics in General Practice.** (1) W. Lecture 1 hour.

**Nathan**

Implementation of the skills and knowledge of periodontology in the private practice environment. STOMATOL

**180.01. Advanced Perio Lit.** (1) F. Prerequisite: Perio 130 and consent of instructor. Seminar 1 hour.

**Abe**

Study in depth, with literature review and seminar discussions of areas of periodontology having major clinical significance. STOMATOL

**180.02. Advanced Perio Lit.** (1) W. Prerequisite: Perio 131 and consent of instructor. Seminar 1 hour.

**Abe**

Study in depth, with literature review and seminar discussions of areas of periodontology having major clinical significance. STOMATOL

**180.03. Advanced Perio Lit.** (1) Sp. Prerequisite: Perio 132 and consent of instructor. Seminar 1 hour.

**Abe**

Study in depth, with literature review and seminar discussions of areas of periodontology having major clinical significance. STOMATOL

**181. Perio Surgical Techniques.** (1) F. Prerequisite: Perio 130 or 131 or 132 and consent of instructor. Lecture 1 hour.

**Levine**

Surgical techniques are presented which may be used to treat lesions occurring in the hard and soft tissues of the periodontium. STOMATOL

**182. Multidisciplinary Case Management** (1) W. Prerequisite: Periodontology 132. 2 hours/week over 5 sessions.

**Engert, Pasquinelli**

An introduction to the concept of comprehensive dental care through the integration of the clinical disciplines. The relationship between periodontics, orthodontics, and restorative dentistry will be emphasized. Predictable long-term results are the therapeutic objective of this approach. STOMATOL

**189.01. Clinical Periodontics.** (0-9) F,W, Sp. Prerequisite: Periodontology 109. Clinic variable.

**Levine**

Continuation of clinical experience beyond the level of Periodontology 109. STOMATOL

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

**Armitage, Johnson, Richards, Bramanti, Levine, Taggart**

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

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

**Armitage**

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

**202A-B. Molec & Biochem Basis of Disease.** (2-2) § F,W. Prerequisite: Biochemistry 100A-B or equivalent introduction to biochemistry. Lecture 2 hours. Seminar 1 hour.

**Bhatnagar**

Course reintroduces students to the principles of biochemistry and molecular biology in relation to current concepts in the molecular basis of major disease entities including cancer, metabolic disorders, fibrotic and degenerative disorders of connective tissues, inflammation, and wound healing. STOMATOL

**209. Literature Review.** (2) § F,W, Sp. Seminar 2 hours.

**Staff**

Seminar designed to correlate basic sciences with problems in periodontology and evaluate concepts in the direction of research, clinical application, and teaching. Selected papers in the literature are re-

viewed and evaluated. Other instructors are invited to participate. STOMATOL

**401. Examination & Treatment Planning.** (1) F. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor.

**Taggart**

Lectures on examination and treatment planning. STOMATOL

**401.01 Structure and Physiology of the Peridontium.** (2) F. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours.

**Ryder**

Advanced study in the oral tissues, with emphasis on their histophysiological aspects. STOMATOL

**404. Applied Anatomy.** (1) Sp. Prerequisite: Enrollment in postgraduate specialty program. Lecture 1 hour.

**Ryder**

Course covers anatomy as it relates to anesthesia and periodontal surgery. STOMATOL

**406.01. Hospital Anesthesiology.** (6) Su. Prerequisite: Consent of instructor. Seminar 1 hour. Clinic 16 hours.

**Taggart**

Practical course in operating room anesthesia. Instruction in hospital administration, physical and preanesthesia evaluation of the patient, monitoring of vital signs, administration of intravenous psychosedation, general anesthesia, and handling of resultant medical emergencies. Clinical instruction is supplemented by seminars. STOMATOL

**406.02. Hospital Periodontics.** (4) F. Prerequisite: Perio 419.01. Lecture 4 hours.

**Taggart**

Clinical periodontics integrated into the regular medical and rehabilitative activities of MZ. Course provides patients with quality dental care, appreciation for preventive dentistry, and concept of total health care. Students are exposed to various medical conditions. STOMATOL

**406.03. Hospital Periodontics.** (4) W. Prerequisite: Perio 419.02. Lecture 4 hours.

**Taggart**

Clinical periodontics integrated into the regular medical and rehabilitative activities of MZ. Course provides patients with quality dental care, appreciation for preventive dentistry, and concept of total health care. Students are exposed to various medical conditions. STOMATOL

**406.04. Hospital Periodontics.** (4) Sp. Prerequisite: Perio 419.03. Lecture 4 hours.

**Taggart**

Clinical periodontics integrated into the regular medical and rehabilitative activities of MZ. Course provides patients with quality dental care, appreciation for preventive dentistry, and concept of total health care. Students are exposed to various medical conditions. STOMATOL

**413.01. Treatment Planning & Surgery.** (1) F. Seminar 1 hour.

**Taggart**

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They are expected to defend their treatment plan and therapeutic procedure based on relevant literature and clinical experience. STOMATOL

**413.02. Treatment Planning & Surgery.** (1) W. Seminar 1 hour.

**Taggart**

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They are expected to defend their treatment plan and therapeutic procedure based on relevant literature and clinical experience. STOMATOL

**413.03. Treatment Planning & Surgery.** (1) Sp. Seminar 1 hour.

**Taggart**

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They are expected to defend their treatment plan and therapeutic procedure based on relevant literature and clinical experience. STOMATOL

**413.04. Treatment Planning & Surgery.** (1) SS1. Seminar 1 hour.

**Taggart**

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They are expected to defend their treatment plan and therapeutic procedure based on relevant literature and clinical experience. STOMATOL

**416. Advanced Periodontology.** (0-2) Su, F,W, Sp. Seminar 1 hour.

**Levine**

Each student will attend 20 literature-review sessions on topical issues in periodontology. STOMATOL

**416.01. Original Investigation.** (1-5) F. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. Lab 3-15 hours.

**Armitage**

Original research under the supervision of a mentor. STOMATOL

**416.02. Original Investigation.** (1-5) W. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. Lab 3-15 hours.

**Armitage**

Original research under the supervision of a mentor. STOMATOL

**416.03. Original Investigation.** (1-5) Sp. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. Lab 3-15 hours.

**Armitage**

Original research under the supervision of a mentor. STOMATOL

**419.01. Clinical Periodontics.** (5) F. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.

**Taggart**  
Clinical procedures in periodontology therapy. STOMATOL

**419.02. Clinical Periodontics.** (5) W. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.

**Taggart**  
Clinical procedures in periodontology therapy. STOMATOL

**419.03. Clinical Periodontics.** (5) Sp. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.

**Taggart**  
Clinical procedures in periodontology therapy. STOMATOL

**419.04. Clinical Periodontics.** (5) SS1. Prerequisite: Enrollment in postgraduate specialty program. Clinic 15 hours.

**Taggart**  
Clinical procedures in periodontology therapy. STOMATOL

**423.01. Adv Treatment Planning & Surgery.** (1) F. Seminar 1 hour.

**Taggart**  
Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience. STOMATOL

**423.02. Adv Treatment Planning & Surgery.** (1) W. Seminar 1 hour.

**Taggart**  
Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience. STOMATOL

**423.03. Adv Treatment Planning & Surgery.** (1) Sp. Seminar 1 hour.

**Taggart**  
Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience. STOMATOL

**423.04. Adv Treatment Planning & Surgery.** (1) SS1. Seminar 1 hour.

**Taggart**  
Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience. STOMATOL

**429.01. Periodontal Therapy.** (6) Su. Prerequisite: Perio 419.01 or 419.02 or 419.03 or 419.04. Clinic 18 hours.

**Taggart**  
Clinical procedures in periodontal therapy. This course is an enlargement on earlier clinical experience. STOMATOL

**429.02. Periodontal Therapy.** (6) F. Prerequisite: Enrollment in postgraduate periodontal therapy. Clinic 18 hours.

**Taggart**  
Clinical procedures in periodontal therapy. STOMATOL

**429.03. Periodontal Therapy.** (6) W. Prerequisite: Perio 429.02. Clinic 18 hours.

**Taggart**  
Advanced surgical techniques in management of periodontal lesions. STOMATOL

**429.04. Periodontal Therapy.** (6) Sp. Prerequisite: Perio 429.03. Clinic 18 hours.

**Taggart**  
Advanced surgical techniques in management of periodontal lesions. STOMATOL

## Pharmaceutical Chemistry

**111. Organic Chemistry.** (2) F. Lecture 2 hours.

**Ketcham**  
Survey of basic concepts and topics in pharmaceutical chemistry, including acid/base behavior, stereochemistry, reaction mechanisms, carbohydrates, amino acids, and peptides. PHARM CHEM

**112. Organic Chemistry.** (2) W. Prerequisite: PC 111. Lecture 2 hours.

**Miller**  
A continuation of PC 111 with emphasis on oxidation/reduction reactions, lipids, heterocyclic compounds, molecules containing sulfur and phosphorus and biopolymers. PHARM CHEM

**120. Principles of Pharm Chem.** (3) § F. Prerequisite: Chemistry 113. Lecture 3 hours.

**Ortiz de Montellano**  
A study of physicochemical and biological factors which contribute to drug action; in vivo and in vitro biotransformations of drugs and related organic compounds. PHARM CHEM

**121. Principles of Pharmaceutical Chemistry.** (2) W. Prerequisite: Pharmaceutical Chemistry 120 and concurrent enrollment in Pharmacology 121. Lecture 2 hours.

**Kahl**  
A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on steroids, prostaglandins, peptide hormones, and drugs for metabolic disorders. PHARM CHEM

**122. Autonomic & Cardiovasc Drugs.** (3) Sp. Prerequisite: Pharmaceutical Chemistry 120. Lecture 3 hours.

**C. C. Wang**  
A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on drugs affecting the autonomic nervous and cardiovascular systems as well as renal function. PHARM CHEM

**132. Drugs Acting on CNS.** (3) W. Prerequisite: Pharmaceutical Chemistry 120. Lecture 3 hours.

**Gibson**  
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. Antibiotics/Anticancer Drugs.** (2) F. 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

**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

**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 1993-94. 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 1993-94. Lecture 2 hours.

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

**204. Introduction to Computer Programming.** (3) § W. Prerequisite: Consent of Instructor. Lecture 3 hours.

**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, Hawkes, Brodsky**  
The emphasis of the course will be on modern principles covering structural and functional aspects of nucleic acid and proteins; molecular biochemical methodologies that focus on topics of pharmaceutical interest; basic theories of molecular biology, plasmids, bacteriophage, nucleic acid and protein characterizations, site-directed mutagenesis, hybridomas and automated microchemical methods for protein and nucleic acid sequence determination. PHARM CHEM

**206. Laboratory Rotation in Pharmaceutical Chemistry.** (1-5) § F,W, Sp. Prerequisite: Consent of instructor. Lab 3-15 hours.

**Staff**  
A laboratory rotation course to familiarize new departmental graduate students with various approaches to research in the pharmaceutical sciences. PHARM CHEM

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

**Øie**  
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.

**Benet**

Advanced consideration of pharmacokinetics including multicompartement models, assessment of intrinsic absorption and disposition parameters, nonlinear kinetics, and correlation of pharmacological response with the concentration-time course of a drug. Conference involves problem-solving exercises. PHARM CHEM

**217. Fundamentals of Targeted Drug Delivery.** (2) § Sp. Prerequisite: One quarter of physical chemistry, kinetics and pharmacology, or consent of instructor.

**Hunt**

The physical, chemical, biotechnological, and other techniques that are proposed to deliver active molecules to specific target sites in vivo are selectively explored in conjunction with toxicological motivations for achieving targeted drug delivery. Feasibility and optimization are discussed. PHARM CHEM

**219A. Enzymology.** (3) § W. Lecture 3 hours. Offered in alternate years. Not offered 1993-94.

**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

**219B. Enzyme Mechanisms.** (3) § Sp. Lecture 3 hours.

**Santi, Kenyon**

In-depth examination of specific enzyme reactions or systems, with emphasis on structure-function. PHARM CHEM

**220. Research Conf in Pharmaceutics.** (1) § F,W, Sp. Lecture 1 hour.

**Upton, Hunt**

A program involving the presentation of core material in pharmaceutical chemistry in the pharmaceutics pathway. The presentations are made by graduate students and examination is by a series of cumulative examinations. PHARM CHEM

**221. Research Conf in Pharm Chem.** (1) § F,W, Sp. Prerequisite: Graduate standing in the Department of Pharmaceutical Chemistry. Lecture 1 hour.

**Kenyon**

A series of weekly research conferences in medicinal chemistry given by visiting lecturers, faculty, and advanced graduate students. PHARM CHEM

**222. Physical Chemistry Seminar.** (1) § F,W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.

**Kuntz and Staff**

Topics of current research interest in physical and biophysical chemistry. PHARM CHEM

**225A-B. Graduate Research Opportunities.** (1-1) § F,W. Prerequisite: Graduate standing in the Department of Pharmaceutical Chemistry. Lecture 1 hour.

**Brodsky, 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.

**Kuntz**

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 1993-94.

**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 implica-

tions 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

**250. Research.** (1-8) § F,W, Sp.

**Staff**

PHARM CHEM

**260. Computer Graphics.** (3) § Sp. Prerequisite: Experience in programming and consent of instructor. Lecture 2 hours. Lab 3 hours. Offered in alternate years. Offered 1990-91.

**Langridge, Ferrin**

Application of interactive three-dimensional computer graphics to modeling complex biological systems, particularly large molecules and their interactions. Elements of hardware and a detailed discussion of software. Demonstration and self-scheduled projects using the computer graphics laboratory. PHARM CHEM

**266. Research Planning Conference.** (1) § F,W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.

**Staff**

Discussion and practice in research problem formulation and design selection. Core classes and small group sessions are organized around students' interests by faculty within the area of specialization. PHARM CHEM

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

**Staff**

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

**299. Dissertation.**

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

**Staff**

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

## Pharmacology

**100A-B. Medical Pharmacology.** (4-4) W, Sp. Prerequisite: Biochemistry 100A-B or equivalent; Physiology 120 and 125 or equivalent. Lecture 3 hours. Conference 2 hours.

**Katzung**

Systematic presentation of pharmacologic agents based on drug group classification. Major emphasis is on mechanism of action of clinically important agents. PHARMACOL

**121. Pharmacology.** (1) W. Prerequisite: Concurrent enrollment in Pharmaceutical Chemistry 121. Lecture 1 hour.

**Burkhalter**

Systematic survey of action and uses of drugs with emphasis on steroids, hormones, and drugs for metabolic disorders. PHARMACOL

**125. Pharmacology & Toxicology.** (4) Sp. Prerequisite: Biochemistry 120A-B and Physiology 120 and 125. Lecture 3 hours. Conference 2 hours.

**Burkhalter**

Systematic survey of action and uses of drugs acting on autonomic nervous and cardiovascular systems and the kidneys. PHARMACOL

**126B-C. Dental Pharmacology.** (2, 4) W, Sp. Prerequisite: Physiology 110. Lecture 2 hours W; 3 hours Sp. Lab 3 hours Sp.

**Trevor**

Objective of the course is to acquaint dental and dental hygiene students with the fundamentals of pharmacology. Various classes of drugs are examined in regard to actions, absorption, fate, excretion, and toxicity. Agents useful in dentistry are emphasized. PHARMACOL

**130. Clinical Toxicology.** (2) Sp. Prerequisite: Pharmacology 125 and 136. Lecture 2 hours.

**Burkhalter**

The occurrence, mode of action, recognition, and treatment of poisoning by environmental chemicals and therapeutic agents. PHARMACOL

**134. Pharmacology.** (2) F. Prerequisite: Pharmacology 125 and concurrent enrollment in Pharmaceutical Chemistry 134. Lecture 2 hours.

**Burkhalter, Guglielmo**

Systematic survey of action and uses of anti-infective and anti-neoplastic drugs. PHARMACOL

**136. Pharmacology & Toxicology.** (4) W. Prerequisite: Pharmacology 125 and concurrent enrollment in Pharmaceutical Chemistry 136. 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

**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.

**Lem, 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.

**Lem, Yee**

Continuation of Pharmacy 111. PHARMACY

**114. Biopharmaceutics & Phys Pharmacy.** (3) F. Prerequisite: Concurrent enrollment in Chemistry 115. Lecture 3 hours.

**Hoener**

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**

Continuation of Pharmacy 114 with the addition of laboratory preparation of basic drug delivery systems. PHARMACY

**116. Biopharmaceutics & Phys Pharmacy.** (4) Sp. Prerequisite: Pharmacy 115. Lecture 3 hours. Lab 3 hours.

**Szoka, Guy**

Continuation of Pharmacy 115. PHARMACY

**123. Non-Prescription Drugs.** (1) F. Prerequisite: Pharmacy 112. Conference 2 hours.

**Lem, Yee**

Continuation of Pharmacy 112. PHARMACY

**127. Biopharmaceutics & Dispensing.** (4) F. Prerequisite: Pharmacy 116 and Pharmacy Administration 112. Lecture 2 hours. Lab 6 hours.

**RDayC**

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**

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.

**Oie**

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.

**Lem**

Course is designed to train students for participation in community health programs dealing with drug abuse education and other drug-health related areas, such as poison prevention, venereal disease, and birth control. Course may be repeated for credit. PHARMACY

**152. Special Topics in Pharmaceutics.** (2) Sp. Prerequisite: Pharmacy 116 or concurrent enrollment. Lecture 2 hours.

**Szoka**

An intermediate course offering an opportunity to explore, in greater depth, special drug delivery systems and some fundamental relationships involved in their design or action. PHARMACY

**154. Percutaneous Absorption.** (2) W. Prerequisite: First-year standing. Lecture 2 hours.

**Guy, Potts**

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**

Discussion and laboratory exercises on the formulation of products for external use, including drugs and cosmetics. The course deals with the properties and ingredients of such products. PHARMACY

**156. Parenteral Products.** (3) F,W, Sp. Prerequisite: Pharmacy 127. Lecture 2 hours. Lab 3 hours.

**Blake**

Introduction to the formulation and technology of parenteral preparations. Laboratory includes participation in hospital activities in which parenterals are made and administered. PHARMACY

**160. Selected Topics in Clinical Pharmacokinetics.** (2) W. Prerequisite: Pharmacy 128 and 129. Lecture 2 hours.

**Tozer**

Selected topics in clinical pharmacokinetics. Depending on coverage in Pharmacy 128/129, topics may include: Pharmacodynamic and pharmacokinetic modelling, distribution kinetics population pharmacokinetics, turnover concepts, dialysis, drug interactions, and metabolic kinetics. The course is intended as an elective for third- and fourth-year students. PHARMACY

**164. Veterinary Products.** (3) Sp. Prerequisite: Microbiology 120, 127, Pathology 135, Pharmacology 136, and Pharmacy 116. Lecture 3 hours.

**Enos**

Course is designed to familiarize the student with common ailments of domestic animals and livestock, products used for the prevention and treatment of such diseases, the interrelationship of pharmacist, veterinarian, and animal owner, and legal limitations on veterinary product dispensing. PHARMACY

**165. Pharmaceutical Technology.** (3) F. Prerequisite: Pharmacy 116. Lecture 1 hour. Lab 6 hours.

**Blake**

An introduction to the technology of liquid and semi-solid pharmaceuticals. Special emphasis is given to the problems encountered and the materials used in pharmaceutical manufacturing. PHARMACY

**166. Pharmaceutical Technology.** (3) W. Prerequisite: Pharmacy 165. Lecture 1 hour. Lab 6 hours.

**Blake**

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**

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.

**Upton, Tozer, Winter, Salazar**

Discussion and review of the literature in the clinical application of pharmacokinetic principles in drug therapy. PHARMACY

**168.02. Clinical Pharmacokinetics-UCL.** (2) F,W, Sp. Prerequisite: Fourth-year standing or consent of instructor. Reports and seminar 3 hours. Enrollment limited.

**Shimomura**

Discussion and review of the literature on the clinical application of pharmacokinetic principles in drug therapy. PHARMACY

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

**Staff**

Group studies of selected topics in pharmacy. PHARMACY

**170.06. Molec & Cell Biology in Drug Devel.** (2) Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

**Szoka**

Introduction to the role of cellular and molecular biology in developing new drugs, hormones, or therapeutic agents. PHARMACY



**170.07. Communication Skills.** (1.5) Sp. Prerequisite: First-year standing. Lab 2 hours. Seminar 1 hour. Enrollment limited.

**Lem**

Aspects of communication which focus on skills pertinent to contemporary pharmacy settings. Discussion of principles of communication and practice of specific techniques in simulated practice situations. PHARMACY

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

**Staff**

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

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

**Staff**

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

## Pharmacy Administration

**111. Pharmacy Laws.** (2) W. Lecture 2 hours.

**J. R. Nielsen**

Introduction to court systems and administration boards and their relationship to the health professions. Discussion of basic principles of criminal law, negligence, and business law with particular emphasis on the legal relationship and responsibility of the practitioner to the patient. PHARMACY

**112. Pharmacy Laws.** (2) Sp. Lecture 2 hours.

**J. R. Nielsen**

A detailed examination of federal and state drug, cosmetic, and narcotic laws; their promulgation, enforcement, and effect upon the practice of pharmacy. Course involves some administrative work. PHARMACY

**150. Marketing.** (4) W. Lecture 4 hours.

**Lucaccini**

An analysis of the marketing functions that facilitate the flow of pharmaceutical products from production to consumption, and of the decision-making processes of marketing institutions. Emphasis is given to the environmental factors affecting marketing decisions. PHARMACY

**154. Community Pharmacy Management.** (4)

Sp. Prerequisite: Basic economics or consent of instructor. Lecture 4 hours.

**Lucaccini**

Principles of management, specially directed toward developing familiarity with current problems peculiar to community pharmacy operation. Emphasis is given to elements in locating, organizing, operating, and adapting a pharmacy. PHARMACY

**155. Accounting.** (3) F. Lecture 1 hour. Discussion 2 hours.

**Lucaccini**

Consideration of the fundamental concepts of accounting and its applied uses, with special emphasis on the accounting requirements of the community pharmacy. Problem cases and demonstrations are presented. PHARMACY

**160. Hlth Prof Family & Business Law.** (2) Sp.

Lecture 2 hours.

**J. R. Nielsen**

A survey of laws relating to landlord-tenant dissolution, property division, support payments, probate and decedent's estates, with particular emphasis on how pharmacists may expect their practice to be affected by these laws, and some practical preventive legal techniques. PHARMACY

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

Consent of instructor.

**Staff**

Group studies of selected topics in pharmacy administration. PHARMACY

**180A-B-C. Legal Problems in Health Care.** (2-

2-2) F,W, Sp. Prerequisite: Third-year standing and consent of instructor.

**J. R. Nielsen**

Selected problems with directed readings and library research on current legal (statutory and case law) issues affecting the delivery of pharmacy services. Discussion and paper. PHARMACY

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

**Staff**

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

## Physical Therapy

**110. Ortho & Rehab Diag/Treatment.** (2) § F

Prerequisite: Completion of PT 200, PT 201, PT 202 and concurrent enrollment in Pathology 135.01. Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 2 hours.

**Hoaglund**

Course presents the diagnostic, medical, and surgical principles and techniques which guide decision making and management by the orthopedic surgeon. Contraindications, precautions, and prognosis are discussed to guide the decision making of the physical therapist. PHYS THER

**111. Neurology & Rehab Diag/Treatment.** (3) §

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) § W. Prerequisite: Upper division coursework in human development and Pathology 135.01. Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 1 hour.

**Kaufman**

Course presents the diagnostic, developmental, behavioral, and medical principles of clinical management for normal youngsters and those with acute/chronic disease. Contraindications, precautions, and prognosis are discussed as they impact physical therapy management. PHYS THER

**198. Supervised Study.** (1-5) § Su, F,W, Sp. Prerequisite: Enrollment in the Curriculum and approval by instructor. Open only to students enrolled in the Curriculum in Physical Therapy.

**Staff**

This course is designed to permit physical therapy students to do independent clinical research under the supervision of faculty. This course can be repeated as approved by faculty. It cannot be used as a substitute for core curriculum coursework. PHYS THER

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

requisite: Enrollment in UCSF/SFSU Program in Physical Therapy and approval of student faculty adviser and project faculty. Open only to students enrolled in the Curriculum in Physical Therapy, or by consent of program director.

**Staff**

Student conducts a laboratory research project under direction of a faculty member with the approval of the chairperson of the department. PHYS THER

**200. Neuromusculoskeletal Anatomy.** (6) § Su.

Prerequisite: Upper division human anatomy and human physiology, or by consent of instructor. Open only to students enrolled in the Curriculum. Lecture 3 hours. Lab 9 hours.

**McKenzie**

Dissection and functional anatomy of the neuromusculoskeletal system from a developmental and biomechanical perspective, with vascular and lymphatic systems related in a 3-dimensional perspective. Principles and relationships reinforced through lecture, dissection laboratories, studies of presections, and weekly integrative clinical seminars. PHYS THER

**201. Kinesiology & PT Assessment.** (3) § Su.

Prerequisite: Completion of prerequisite coursework in kinesiology, exercise physiology, anatomy, and physiology. Open only to students enrolled in the Curriculum, or by consent of program director. Lecture 1 hour. Lab 6 hours.

**Richards, Byl**

Application of surface anatomy, structural and biomechanical principles to normal trunk and extremity motion within the physical therapy assessment. Principles of measurement, instrumentation, administration, and interpretation of standardized and clinical evaluation techniques reviewed in a lecture and lab setting. PHYS THER

**202. Therapeutic Exer. and Modalities.** (2) § Su. Prerequisite: Completion of prerequisite coursework in exercise physiology and human physiology. Open only to students enrolled in the Curriculum or by consent of program director. Lecture 1 hour. Lab 3 hours.

**Richards**

In lecture and laboratory setting, physiological, theoretical, and administrative principles are applied to the application of therapeutic modalities and the design and implementation of therapeutic exercise programs to prevent disability, maintain positive health, and restore function. PHYS THER

**203. Advanced PT Practice & Theory I.** (4) § F.

Prerequisite: PT 701 and PT 702 or their equivalent and concurrent enrollment in the Kaiser Orthopedic Physical Therapy and Clinical Residency Program. Open only to students enrolled as a graduate student at UCSF or SFSU, or by consent of program director. Lecture 2 hours. Lab 6 hours.

**Staff**

This course includes intensive, advanced analysis of the Australian manual therapy theory, subjective and objective assessment techniques, as well as treatment techniques for the cervical, thoracic, and lumbar spine and the shoulder and hip joint. PHYS THER

**204. Advanced PT Practice & Theory II.** (5) § W.

Prerequisite: PT 203 and concurrent enrollment in the Kaiser Orthopedic Physical Therapy and Clinical Residency Program. Open only to students enrolled as a graduate student at UCSF or SFSU, or by consent of program director. Lecture 3 hours. Lab 6 hours.

**Staff**

A continuation of PT 203 and includes prioritizing patient complaints, progressing treatment at optimal rates, discharge planning, home exercise programs, ergonomic analysis, function assessment and advanced treatment techniques for the neck, thoracic, lumbar spine, foot/ankle, wrist/hand, shoulder, sacroiliac, and lower extremity joints. PHYS THER

**205. Functional Anatomy Review.** (1.5) § Su.

Prerequisite: PT 200 or equivalent. Open only to students enrolled in the graduate program in physical therapy. Lecture 1 hour. Lab 1.5 hours.

**McKenzie**

This course is designed for physical therapists. Using prosected (and/or dissected) cadavers, the student is expected to relate the structures to clinical kinesiology, biomechanics, and the pathological state. Students are expected to critically review research in applied anatomy. PHYS THER

**206. PT Diagnosis of Phys Dysfunction.** (2) §

Su. Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program or by consent of program director. Seminar 2 hours.

**Byl and Staff**

Using clinical case examples, this seminar focuses on history-taking, clinical assessment, clinical measurement, and signs and symptoms as they apply to mak-

ing a physical diagnosis and appropriately classifying problems of physical dysfunction as a foundation for clinical problem solving and treatment. PHYS THER

**210. Pharmacology & Radiology for PTs.** (2) § Sp. Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program or by consent of program director. Lecture 2 hours.

**Byl and Staff**

Survey course of pharmacology and radiology of common psychological, social, and neuromusculoskeletal disability. Pharmacological topics include principles, indications, adverse reactions. Radiological topics include principles, indications, advantages and disadvantages of appropriate radiological techniques for assessing skeletal and soft tissue lesions. PHYS THER

**218. Principles of Isokinetic Exercise.** (3) § W, Sp. Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program and permission of instructor. Lecture 2 hours. Lab 3 hours.

**Sadowsky**

Principles of isokinetic exercise applied to the identification, assessment, and significance of normal and abnormal muscle performance. Patient preparation, exercise and testing protocols, test result interpretation, and equipment maintenance will be emphasized. Variable lecture/laboratory ratio. PHYS THER

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

**Staff**

Students, staff, or guest lecturers present selected topics, reflecting developing directions in physical therapy (e.g., pain control, rehabilitation engineering, mobilization, neuroplasticity, premature high-risk infants, TMJ problems, craniocervical therapy). May be repeated for credit when topics vary. PHYS THER

**250. Research Seminar in Physical Therapy.** (1-8) § F Prerequisite: Completion of PT research seminars through PT 253. Enrolled in UCSF/SFSU Physical Therapy Program or by consent of program director.

**Byl**

Problem solving, designs, methodologies, data analysis procedures for specific topics in basic and clinical physical therapy research. Implementation of one facet of an ongoing project, under guidance of the investigator. PHYS THER

**252. Research Seminar: Critique of Physical Therapy Literature.** (1) § F Prerequisite: Completion of a course in statistics and enrolled in Graduate Program in Physical Therapy. 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 Seminar: Proposal Writing.** (1) § F Prerequisite: grade B or better in PT 252. Open only to students enrolled in the Curriculum or by consent of program director. Seminar 3 hours.

**Byl**

Converting the research question to a research hypothesis, and proposal writing including preparation of a proposal for a research project. PHYS THER

**254. Research Seminar: Data Analysis.** (1) § Sp. Prerequisite: Completion of PT research seminars 730, 252 and 253. Enrolled in UCSF/SFSU Physical Therapy Program or by consent of program director. Seminar 1 hour.

**Byl**

This is the last seminar in the research series, and includes data analysis, data interpretation, problem solving, manuscript preparation, and presentation of results to class and other professionals. PHYS THER

**300. Practicum in Teaching.** (1-4) § F, W, Sp, SS3. Prerequisite: Enrolled in Graduate Program in Physical Therapy and satisfactory completion of PT 200. Consent of instructor.

**Staff**

Training in teaching in a course offered by the Graduate Program in Physical Therapy 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. PHYS THER

**410. Clinical Clerkship.** (0) § W. Prerequisite: Completion of academic coursework with overall B average. Open only to students enrolled in the Curriculum, or by consent of program director. Clinic 1 day/week.

**S. Richards**

Students observe and assist the physical therapy clinician in the provision of assessment, evaluation, and physical therapy treatment services in one practice setting, one day a week for 11 weeks. PHYS THER

**411. Clinical Clerkship.** (0) § Sp. Prerequisite: Enrolled in Graduate Program in Physical Therapy and satisfactory completion of academic coursework with overall B average to enter the clinical clerkships. Open only to students enrolled in the Curriculum, or by consent of program director. Clinic 1 day/week.

**S. Richards**

Students develop their physical therapy assessment skills and integrate their didactic information with patient treatment by working closely with a clinical preceptor in the clinical setting to evaluate patients under supervision and directly observe staff provide physical therapy treatment. PHYS THER

**412. Clinical Clerkship.** (0) § Su. Prerequisite: PT 410 and PT 411. Open only to students enrolled in the Curriculum, or by consent of program director. 40 hours/week, 5 days/week for 6 weeks.

**S. Richards**

Students provide assessment, evaluation, and physical therapy treatment under the direct supervision of a physical therapist. Students must demonstrate satisfactory completion of this clerkship before progressing to the next clerkship. PHYS THER

**413. Clinical Clerkship.** (0) § Su. Prerequisite: PT 412. Open only to students enrolled in the Curriculum, or by consent of program director. 40 hours/week, 5 days/week for 6 weeks.

**S. Richards**

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.** (0) § SS3, F, W, Sp. Prerequisite: PT 410, PT 411. Open only to students enrolled in the Curriculum. Forty hours/week for 6-12 weeks.

**S. Richards**

Students provide patient care under the guidance and supervision of a clinical preceptor in a clinical facility affiliated with UCSF. The student is expected to progress to increased independence of physical therapy practice. PHYS THER

**415. Clinical Clerkship.** (0) § SS3. Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program and satisfactory completion of PT 412 and 413.

**Radtka**

Students provide physical therapy patient care for 40 hours/week for 11 weeks under the guidance and supervision of a clinical preceptor in one or two clinical facilities that differ from the type of setting in PT 412 and 413. PHYS THER

**418. Advanced Clinical Clerkship.** (0) § Su, F, W, Sp. Prerequisite: Enrolled in UCSF/SFSU Physical Therapy Program.

**S. Richards**

This advanced clinical clerkship is specifically arranged to enable the student to develop advanced clinical skills under the supervision of a clinical preceptor in one clinical setting. Setting and emphasis will vary. PHYS THER

## Physiology

**100. Organ System Physiology.** (6) § W. Prerequisite: Anatomy 100 and Interdepartmental Studies 100 and concurrent enrollment in Biochemistry 100; or by consent of instructor. Lecture 4 hours. Lab 4 hours. Conference 2 hours.

**Wright**

Normal function of the cardiovascular, respiratory, and renal systems and the metabolic functions of the body as a whole are studied in lectures, conferences, laboratory exercises, demonstrations, and clinical illustrations. PHYSIOLOGY

**101. Endocrinology & Gastroenterology.** (5) § Sp. Prerequisite: Anatomy 100A-B, Biochemistry

100, Physiology 100, Interdepartmental Studies 100, or consent of instructor. Lecture 1 hour. Conference 4 hours.

**Lingappa**

Within the framework of endocrine and gastrointestinal physiology, the course will strive to teach the information necessary to achieve an understanding of key physiologic principles. PHYSIOLOGY

**110. Integrative & Nutritive Systems.** (6) § Sp. Prerequisite: College-level biology, physics, and chemistry, or consent of instructor. Lecture 4 hours. Lab 1 hour. Conference 1 hour.

**A. Miller**

To provide understanding of the mechanisms and processes in various organ systems. Provide necessary background for learning about human disease and its treatment. Enhance understanding of the function of organs and cells. Provide knowledge for realization that oral functions and disease involve exactly the same processes as other human functions and disease. Help prepare skills necessary to understand and evaluate clinical literature. PHYSIOLOGY

**120. Mammalian Physiology.** (2.5) § W. Prerequisite: Physiology 125 required for students in School of Pharmacy; may be taken separately by graduate students with consent of instructor only. Lecture 2 hours. Conference 0.5 hour.

**Reid and Staff**

Study of the integrative systems of the mammalian organism, particularly the gastrointestinal and endocrine systems. PHYSIOLOGY

**120.01. Mammalian Physiology.** (2.5) W. Prerequisite: Physiology 125.01 required for students in Curriculum in Physical Therapy. Open only to students enrolled in the Curriculum in Physical Therapy; or by consent of instructor. Lecture 2 hours. Conference 1 hour.

**Ganong**

Study of the integrative systems of the mammalian organism, particularly the gastrointestinal and endocrine systems. PHYSIOLOGY

**125. Mammalian Physiology.** (6) F Prerequisite: Consent of instructor. Lecture 4 hours. Lab 4 hours. Conference 2 hours.

**Mines**

Physiology of the human cardiovascular, respiratory and renal systems is stressed, with special attention to developing problem solving skills using the material. PHYSIOLOGY

**125.01. Mammalian Physiology.** (5) F Prerequisite: Completion of course work in summer term. Open only to students enrolled in the Curriculum in Physical Therapy; or by consent of instructor. Lecture 4 hours. Conference 2 hours.

**Mines**

Physiology of the human cardiovascular, respiratory and renal systems is stressed, with special attention to developing problem solving skills using the material. PHYSIOLOGY

**126. Neuroscience for Pharmacy.** (4) W. Prerequisite: Physiology 125 or consent of instructor. Lecture 3 hours. Lab 1.5 hours. Conference 1 hour.

**Korenbrod and Staff**

Course is designed primarily for students in the School of Pharmacy. The course will present an integrated approach to the physiological operations of the nervous system and the morphological or anatomical substrates in which these occur. PHYSIOLOGY

**150.01. Research in Physiology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture and lab to be arranged.

**Staff**

Individual research in endocrinology, respiratory physiology, neurophysiology, cardiovascular physiology, cell physiology, or other areas offered by individual staff members. PHYSIOLOGY

**170.01. Medical Scholars Program Workshops.** (1) W. Prerequisite: Consent of instructor (this course is offered as part of the UCSF Medical Scholars Program, which endeavors to encourage students to pursue careers in academic medicine).

**Dallman.**

Workshops in organ system physiology, offered concurrently to the first-year course, which will present challenging material in the form of problem sets which students will solve in groups. Material geared toward high-achieving students will augment basic coursework with clinical and basic science information. PHYSIOLOGY

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

**Staff**

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

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

**Staff**

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

**201. Advanced Integrative Physiology.** (4) § Sp. Prerequisite: Physiology 100 or equivalent. Lecture 2 hours.

**Reid and Staff**

The purpose of this course is to review in depth selected topics in regulatory and integrative physiology. The emphasis will be on cardiovascular, renal, and respiratory physiology, but other systems will also be covered. PHYSIOLOGY

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

**Korenbrod, Verkman**

Study of cellular and molecular mechanisms of membrane transport. Course will be based on lectures and discussions of current literature on both active and passive transport of electrolytes and non-electrolytes across biological cell membranes. PHYSIOLOGY

**204. Topics in Physiology.** (2-3) § Sp. Prerequisite: A minimum of six units of introductory physiology. Seminar 2 hours. Optional term paper for additional unit.

**Rothman**

This seminar discusses selected topics in cellular and integrative physiology. Readings are drawn from primary and secondary sources. PHYSIOLOGY

**221. Molecular & Cellular Approaches to Cardiovascular Disease.** (1.5) § W, Sp. Prerequisite: Physiology 100 or equivalent. Lecture 1 hour. Conference 0.5 hour.

**Coughlin, Williams**

Lectures will emphasize approaches to understanding mechanisms of disease at the molecular level. Focus will be on vascular biology and pathophysiology, and on molecular targets for therapeutics. PHYSIOLOGY

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

**Hall**

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

**224. Molec Biol of Lipid Metabolism.** (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1993-94.

**Taylor, Fielding**

The structure and regulation of the genes and proteins that control lipid metabolism, including plasma apolipoproteins, receptors, and enzymes. Molecular and cellular biology of mammalian lipid metabolism examined with respect to regulation of various proteins involved in transport, binding, and utilization of lipids. PHYSIOLOGY

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

**Rothman**

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

**228. Secretion.** (2) § W. Lecture 1 hour.

**Rothman**

Origins and experimental basis of vesicular and non-vesicular theories for the secretion of organic cell products. Goodness of fit of data to theoretical models and the role of scientific test in evaluating hypothetical constructs will be emphasized. STOMATOL

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

**Staff**

PHYSIOLOGY

**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. 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) § 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

## 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. Patients and Doctors I.** (2) F. Lecture 2 hours. Seminar 1 hour.

**Kaltreider, F. Cohen**

Introduction to psychological principles influencing health behaviors and the physician-patient relation-

ship. Cross-cultural factors are explored as is the response to the stress of illness with emphasis on defense and coping, character style and the dying process. PSYCHIATRY

**100B. Patients and Doctors II.** (1) W. Prerequisite: Psychiatry 100A. Two hours per week total will vary with lectures, panels, and seminars.

**Kaltreider, F. Cohen**

The life cycle in health and illness, personality style, emotion and psychotherapy will be covered. 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 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.

**Elkin (A), Marmar (B)**

Introduction to clinical psychiatry with particular emphasis upon knowledge important in general medical practice. Course format includes lecture, small group teaching, interviewing patients, syllabus reading, and the use of clinical videotapes and film. PSYCHIATRY

**140.01. Advanced Psychiatry Clerkship.** (1.5 per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of instructor.

**P. Martin**

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

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

**P. Martin**

Clinical clerkship in off-campus hospitals, approved by the chairperson of the department and the dean. PSYCHIATRY

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

**Leigh, Jamner, Hierholzer**

A 4-6 week elective rotation at the Behavioral Medicine Center and the Psychiatric Consult Service. Students given opportunity for comprehensive patient evaluation using the biopsychosocial treatment plan; participation in psychosomatic medicine research, work with interdisciplinary team. Housing provided by UCSF PSYCHIATRY

**140.07. Advanced Adult Inpatient Forensic Psychiatry-AS.** (1.5 per week) Su, F,W, Sp. Prerequisite: Completion of core curriculum in Psychiatry and approval of Dean's Office. Restriction: Must be by prior arrangement only. Make arrangements with Department of Psychiatry, UCSF Fresno, 2615 E. Clinton Avenue, Fresno, CA 93703. Lecture 5 hours. Seminar 2 hours. Library research 8 hours.

**Sanders, Kiersch, Slater**

In world's largest forensic hospital, students will observe admissions, evaluations, interviews of patients with a wide spectrum of psychopathology. Will participate in treatment planning and forensic seminars. Emphasis on legal aspects of psychiatry. Room and board provided through Atascadero State Hospital. PSYCHIATRY

**140.08 Consultation Clerkship-VMC.** (1.5/wk) Su, F,W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry.

**Ahles**

Supervised evaluation and treatment of patients on the Psychiatry Consultation Service, Liaison Units, Psychosomatic Clinic, and Emergency Room. Learning opportunities include teaching rounds, consultation seminar, biopsychosocial rounds, and consultation syllabus. PSYCHIATRY

**140.09 Combined Family Practice/Psychiatry Elective-VAE.** (1.5/wk) F,W, Sp. Prerequisite: Psychiatry 110.

**Blossom, Leigh, Ahles, Schott, Nowlis**

Integrated hands-on Family Practice and Psychiatric evaluation and treatment of patients in both Family Practice and Psychiatric Services. Geared to a comprehensive evaluation and treatment of patients. PSYCHIATRY

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

**Kaltreider, Jones**

Participation according to students' level of experience in experimental work in areas such as neurophysiology, operant conditioning, psychophysiology, immunochemistry, and nonlexical communication. All work is under the close supervision of members of the faculty. PSYCHIATRY

**170.01. Intro to Study of Suicide.** (2) § F,W, or Sp. Prerequisite: Consent of Department of Psychiatry. Lecture 2 hours.

**Motto**

Suicide is surveyed from a multidisciplinary approach in seminars led by persons working in the field. PSYCHIATRY

**170.02. Alcoholism.** (1) F Lecture 1 hour.

**P. Stewart**

General issues in substance abuse as well as the pharmacologic, medical, and neurologic aspects of alcohol abuse. Treatment issues will be considered with emphasis on Alcoholics Anonymous. Family issues arising from alcohol abuse and special concerns for the health professional. PSYCHIATRY

**170.17A. Issues in Psychiatry.** (1-3) F,W, Sp. Prerequisite: Consent of Department of Psychiatry. Seminar 1-3 hours.

**Kaltreider**

Explores focal psychiatric issues in systematic format. Current electives include substance abuse, women's psychological health, the development of physician identity, cross-cultural issues. New topics are designed according to faculty/student interests. PSYCHIATRY

**170.17B. Issues in Psychiatry.** (1-3) F,W, Sp. Prerequisite: Consent of Department of Psychiatry. Seminar 1-3 hours.

**Kaltreider**

Explores focal psychiatric issues in systematic format. Current electives include substance abuse, women's psychological health, the development of physician identity, cross-cultural issues. New topics are designed according to faculty/student interests. PSYCHIATRY

**170.17C. Issues in Psychiatry.** (1-3) F,W, Sp. Prerequisite: Consent of Department of Psychiatry. Seminar 1-3 hours.

**Kaltreider**

Explores focal psychiatric issues in systematic format. Current electives include substance abuse, women's psychological health, the development of physician identity, cross-cultural issues. New topics are designed according to faculty/student interests. PSYCHIATRY

**170.18. Psychotherapy Research.** (3) Sp. Prerequisite: Course in statistics and consent of Department of Psychiatry.

**M. Horowitz**

Participation in research activities at the Center for the Study of Neuroses. Lectures, laboratory, individual guidance to readings, and patient observation are included. PSYCHIATRY

**170.19. Cultural Considerations in Health Care.**

(1) Sp. Lecture: 1 hour.

**Lee**

Introduction to the values and beliefs of various minority cultures regarding health and illness, with an emphasis on practical clinical skills in working with a diverse patient population, understanding particular psychosocial stressors relevant to minority patients, and an understanding of the historical factors which impact on the health of minority populations. PSYCHIATRY

**170.20. Topics in the Psychology of Women:**

**Feminist Persp.** (1) F,W, or Sp. Prerequisite: Open to medical students and graduate nursing students. Seminar: 1 hour.

**Gartrell, Johnson**

In this seminar, there are small-group discussions based on readings from feminist perspectives on the following topics: women's moral development; dominance/subordination; eating disorders/body image; multiple discriminations against women. PSYCHIATRY

**180. Sexual Issues in Medical Practice.** (2) W. Lecture 2 hours. Prerequisite: Psychiatry 100 A/B. Medical students only.

**Bullard, Alperstein**

Introduces sexual health as an integral part of general medical care. Course (22 hours) mandated by California legislature. Interdepartmental teaching. PSYCHIATRY

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

**N. Kaltreider and Staff**

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

**214. Practice of Clinical Social Work.** (1.5) § F,W, Sp. Prerequisite: 1 year of clinical social work. Restricted to interns in clinical social work. Lecture 1.5 hours.

**H. Roth**

This course aims at integrating developmental and clinical theories with clinical social work practice toward enhancing clinical, conceptual, and consultative knowledge and skills. PSYCHIATRY

**400. Com Mental Health System.** (1) Su,W. Required for first-year residents in Psychiatry. Seminar 1 hour.

**Surber**

Focus is on special treatment issues involved in the care of the chronically disabled patient and of patients of various ethnic and minority backgrounds. PSYCHIATRY

**401. Intro to Clinical Interviewing.** (1) Su,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

**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

**417. Child Psychopath/Psychotherapy.** (1) Su, F. Prerequisite: Required for second-year residents in Psychiatry. Seminar 1 hour.

**Binger, I. Philips**

Seminar covers the theory and implementation of the technique of psychotherapy with children. Emphasis is placed on play therapy. The seminar will also cover psychopathology as manifested in children, including descriptions and possible ideologies. PSYCHIATRY

**421. Psychoanalytic Psychotherapy.** (1) F,W, Sp. Required for third-year residents in Psychiatry. Seminar 1 hour.

**Amini, Baumbacher**

Course explores the application of psychoanalytic theory to psychotherapy. PSYCHIATRY

**422. Social Psychiatry.** (1.5) F,W, Sp. Prerequisite: Required for third-year residents in Psychiatry, or consent of instructor. Seminar 1.5 hours.

**F. A. Johnson, Pearlin**

Course introduces residents to various aspects of social and community psychiatry. Topics include social psychiatry prior to 1950, development of community mental health programs in the U.S., related social sciences, and current developments in the field. PSYCHIATRY

**423. Group Therapy.** (1) F,W. Required for third-year residents in Psychiatry. Seminar 1 hour.

**Zeitlin**

Course provides a didactic introduction to the practice of outpatient group psychotherapy. PSYCHIATRY

**431. Neurology.** (1) W. Prerequisite: Required for fourth-year residents in Psychiatry. Lecture 1 hour.

**Palatucci**

Review of clinical neurology with emphasis on neurological disorders that may have psychiatric implications. PSYCHIATRY

**451. Psychiatric Grand Rounds.** (1.5) F,W, Sp. Lecture 1.5 hours.

**Freimer**

Members of the Department of Psychiatry and distinguished guests make clinically centered presentations reflecting diverse areas of the field. 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

**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.

**Siegel, Lieberman**

Provides theoretical understanding of normal growth and development. Format is primarily presentations and group discussions. PSYCHIATRY

**483. Principles of Therapeutic Meth.** (1) F,W, Sp. Prerequisite: Required for first-year child psychiatry fellows, or consent of instructor. Seminar 1 hour.

**I. Philips**

Discussion of philosophy and practice of clinical work with patients. Includes history, principles, and methods of child psychiatry as well as all stages of child development and modalities of treatment. PSYCHIATRY

**485. Psychopathology Literature Sem.** (1) F,W, Sp. Prerequisite: Required for first-year child psychiatry fellows, or consent of instructor for others. Seminar 1 hour.

**Rubenstein 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.

**Hanson**

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.

**Hanson, Simpson**

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) Su. Prerequisite: Required for first-year child psychiatry fellows or consent of instructor for others.

**D. Morrison**

Seminar is focused on the most common and prevalently used methods of assessing intelligence, educational achievement, perceptual-motor integration, and personality in children. Actual testing materials as well as supporting research are covered. Participation is required. PSYCHIATRY

**491. Res Methodology in Child Psychr.** (1) F,W, Sp. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1 hour.

**D. Morrison**

Review of basics of experimental design and methodology such as reliability and validity of measuring techniques, statistical inference, control group designs, and pre- and post-test designs. Clinical research with children provides a focus for discussion of relevant issues. PSYCHIATRY

**492. Ped Consultation Orientation.** (1.5) Su. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1.5 hours.

**Shatkin**

Discussion of goals, attitudes, and skills required in child psychiatry consultation/liaison work. PSYCHIATRY

**493. Pediatric Consultation Seminar.** (1.5) F. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1.5 hours.

**Shatkin**

Discussion of formal consultations of cases requested by the Pediatric Inpatient Service, Child Study Center, Family Medicine Clinic, etc. PSYCHIATRY

**494. Com Consultation Literature Sem.** (1) Su. Prerequisite: Required for second-year child psychiatry fellows, or consent of instructor. Seminar 1 hour.

**Reece, Sikorski**

Review of literature and discussions on community consultation. PSYCHIATRY

**495. Child Continuous Case Seminar.** (1.5) F,W, Sp. Prerequisite: Required for second-year child psy-

chiatry 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.

**O'Byrne**

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) Su. 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

**180.05. Stress among Hlth Professionals.** (2) § F. Seminar 2 hours.

**Garfield**

Course will focus on a theoretical understanding of the origins of job stress and the nature of burnout, and on practical and programmatic methods of reducing the stress overload incurred by physicians, nurses, and other health care professionals. PSYCHIATRY

**180.08. Brain-Behavior Research Methods.** (3) § W. Prerequisite: Survey of physiological psychology, or equivalent. Requires prior consent of instructor. Lecture 2 hours. Seminar 1 hour.

**Galin and Staff**

An extensive survey of techniques and strategies emphasizing critical appreciation of principles and range of appropriateness rather than how-to-do-it. Topics include clinical lesion studies, microscopic anatomy, neuroradiology, neurochemistry, psychopharmacology, autonomic psychophysiology, scalp electrophysiology, behavioral genetics, neuropsychological assessment. PSYCHIATRY

**180.09. Neuropsychology of Dissociation.** (3) § F Prerequisite: Prior consent of instructor. Seminar 3 hours.

**Galin**

Topics in Neurological Disconnection and Psychological Dissociation: an advanced seminar considering cognitive and neuropsychological aspects of integration and fragmentation of the whole person. Topics will vary from year to year. Examples are split-brain syndromes, hypnosis, and multiple personality disorder. PSYCHIATRY

**181.02. Cerebral Hemispheric Specialization.**

(2) § Sp. Prerequisite: Background in neurophysiology, anatomy, cognitive psychology; intended for advanced students. Requires prior consent of instructor. Seminar 2 hours.

**Galin**

Group discussions of readings in seminar format of neuropsychology of hemispheric specialization and integration; developmental, psychiatric, and educational implications; evaluation of data from study of brain lesions, electrophysiological recordings, and behavioral testing. PSYCHIATRY

**181.07. Coping with Stress in Med School.** (1) § F,W,Sp. Seminar 1 hour. Enrollment limited. Priority given to medical students.

**Blackwell**

Consideration of psychological processes utilized under stress and of alternative constructive methods for coping, with practice in using these techniques. Course is designed to help students handle stress and apply such principles to management of patients. PSYCHIATRY

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

**Staff**

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

**202A-B. Computer Simulation of Human Interaction.** (3-3) § W,Sp. Prerequisite: Psychology 257 or equivalent. Lecture 1 hour. Lab 6 hours.

**Starkweather**

The development and testing of theoretical models of personality are explored by means of computer programs. Students program the computer for simulation and symbol manipulation. PSYCHIATRY

**205. Child Development.** (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

**C. Lewis**

Course will focus on major issues, theories, and findings in child development. Topics covered will include attachment; Piagetian and other theories of cognitive development; language development; moral development and pro-social behavior; aggression; and self-esteem and competence. PSYCHIATRY

**212. Psychological Stress & Coping.** (4) § Sp. Prerequisite: Consent of instructor. Seminar 4 hours. Offered in alternate years. Not offered 1993-94.

**F. Cohen**

Course examines stress and coping theory and research from clinical, field, and laboratory settings; measures of stress; issues in stress research; the nature of coping and coping processes. PSYCHIATRY

**222. Practicum in Program Evaluation.** (2-4) § F,W,Sp. Prerequisite: Graduate standing and some experience in interviewing. Lab 3 hours. Seminar 6 hours during first 4-6 weeks.

**Blackwell**

After an intensive seminar introduction to basic concepts of evaluation, students will carry out various evaluations on clinical clerkships in the School of Medicine. The length of the introductory period will depend on previous experience of students. PSYCHIATRY

**230. Physiology for Health Psychologists.** (4) § F

Prerequisite: Graduate standing in Health Psychology program or consent of instructor. Lecture 4 hours. Offered in alternate years. Not offered 1993-94.

**Naifeh**

An overview of major organ systems of the human body stressing psychological impacts on their functioning and psychological consequences of abnormality. Course will prepare student for reading medical literature and interacting effectively with health professionals in planning research. PSYCHIATRY

**236A-B-C. Human Neurophysiology.** (1-1-1) § F,W,Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

**Yingling**

A journal club format seminar course which will examine the current literature in human EEG and evoked potentials, with emphasis on identification of cerebral sources. Students will make oral class presentations. PSYCHIATRY

**237. Neurophysiological Mech of EEG.** (3) § W.

Prerequisite: At least one course in physiological psychology or neurobiology, or consent of instructor. Lecture 1 hour. Seminar 2 hours.

**Yingling**

Course will examine the neuroanatomical and neurophysiological mechanisms underlying the generation and regulation of EEG and Event-related Potentials, their measurement and clinical uses. Emphasis on the nature and limitations of inferences concerning brain activity obtainable from scalp recordings. PSYCHIATRY

**248. Independent Study.** (1-6) § F,W,Sp. Prerequisite: Consent of instructor.

**Staff**

Independent study under the supervision of a member of the faculty. PSYCHIATRY

**250. Research.** (1-8) § F,W,Sp.

**Staff**

PSYCHIATRY

**254A. Research Methods.** (4) § Sp. Prerequisite:

Consent of instructor. Lecture 4 hours. Offered in alternate years. Not offered 1993-94.

**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 1993-94.

**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 1993-94.

**Attkisson**

Function and tasks of the health system with emphasis on the study of health service organizations and health services delivery from the perspective of living systems theory and organizational psychology. PSYCHIATRY

**265. Stress & Bodily Disease.** (4) § Sp. Prerequisite:

Consent of instructor. Seminar 4 hours. Offered in alternate years. Offered 1993-94.

**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 1993-94.

**N. Adler**

Examination of the role that psychological and social factors can play in a variety of reproductive behaviors: pregnancy, obstetrical complications, postpartum reactions, infertility, contraceptive use and nonuse, spontaneous and induced abortion. PSYCHIATRY

**281A-B-C-D. Clinical Research Seminar.** (1.5-

1.5-1.5-1.5) § Su, F,W,Sp. Prerequisite: Consent of instructor. Seminar 1.5 hours.

**Attkisson**

Seminar discussions of contemporary research in clinical psychology. Issues covered include major problems in conducting clinical research, skills and methods required in clinical research, and career development for the clinical psychologist. Course is intended primarily for advanced clinical psychology students. PSYCHIATRY

**285A-B-C-D. Intermediate Family Therapy.**

(1.5-3-3-3) § SS2, F,W,Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Four-quarter course.

**Hatcher**

Stages in family development, communications analysis, role definitions, family myths, power and resistance systems, growth models of family therapy, and

intervention techniques. Emphasis on clinical and practical issues, videotape presentations of families in treatment, clinical supervision of ongoing cases. PSYCHIATRY

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

**Staff**

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

**300. Teaching Practicum.** (0) § F,W, or Sp. Prerequisite: Consent of instructor. Lecture and lab variable.

**Staff**

Supervised classroom or tutorial teaching experience. PSYCHIATRY

## Radiation Oncology

**140.01. Radiation Oncology Clerkship-UC.** (1.5 per week) Su, F,W,Sp. Prerequisite: Medicine 131A-B-C.

**Larson**

Participation in examination of cancer patients under treatment in radiation oncology. Students participate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

**140.06. Radiation Oncology Clerkship-MZ.** (1.5 per week) Su, F,W,Sp. Prerequisite: Medicine 131A-B-C.

**Margolis, Meyler**

Participation in examination of cancer patients under treatment in the Claire Zellerbach Saroni Tumor Institute at MZ. Students participate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

**403. Radiation Oncology Grand Rounds.** (1) Su, F,W,Sp. Lecture 1 hour.

**T. Phillips**

Rounds include presentation of problem cases with discussions of diagnosis and treatment as well as biologic implications. Frequent guest lectures are used to cover important aspects of oncology. RADIOLOGY

**404. Cancer Specialty Seminar.** (3) Su, F,W,Sp. Seminar 3 hours.

**T. Phillips**

Seminars include discussions of the diagnosis, treatment, and results of specialty oncology problems, including head and neck, gynecologic, otolaryngologic, pediatric, dermatologic, lymphomatous, and general malignancies. RADIOLOGY

**423. Therapeutic Treatment Planning.** (10) Su, F,W,Sp. Prerequisite: Residents assigned to therapeutic radiology. One-month workshop course.

**V. Smith**

A workshop course to provide residents in therapeutic radiology with the elements of treatment planning and dose calculations. RADIOLOGY

**424. Therapeutic Radiology Physics.** (1) F,W, Sp. Prerequisite: Residents assigned to therapeutic radiology. Lecture-seminar 1 hour.

**Weaver**

A lecture-seminar course with practical sessions to provide the resident with a basic knowledge of radiological physics with special reference to those aspects relating to therapeutic radiology. RADIOLOGY

**454. Clinical Therapeutic Radiology.** (1.5 per week) Su, F,W, Sp.

**T. Phillips**

Residents, under supervision, are responsible for diagnosis, treatment, and follow-up of patients referred to radiation therapy from the wards and outpatient clinics. Radiation therapy rounds include discussion of newly referred patients; chart rounds include the discussion of patients under treatment. RADIOLOGY

## Radiology

**100. Intro to Clinical Radiology.** (2) W. Prerequisite: Anatomy 100, 100B, 103, and Pathology 102. Concurrent enrollment in Medicine 131A-B-C. Lecture 2 hours. Lab 1 hour.

**J. LaBerge**

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.

**J. LaBerge**

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.

**J. LaBerge**

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.

**J. LaBerge**

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.

**Gooding**

Students may be involved in clinical diagnostic procedures such as body and neuro computed tomography, ultrasound, fluoroscope, chest, bone, and interventional radiography, with concentration on any one of these areas. Clinical or research projects may be undertaken with permission of the instructor. RADIOLOGY

**150.01. Research in Radiology.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110 and approval of instructor. For students seriously interested in a career in academic medicine.

**J. LaBerge**

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) 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.

**J. LaBerge**

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.

**J. LaBerge**

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

**220. Radiol Physics for Physicists.** (2) § F,W, Sp.

Prerequisite: Bachelor's or higher degree in the physical sciences.

**Staff**

Seminars provide physicists with an in-depth knowledge of radiological physics. RADIOLOGY

**400. Diagnostic Radiology Seminar.** (1) Su, F,W, Sp. Lecture 1 hour.

**Thoeni**

Faculty from radiology and other departments lecture and discuss various diseases of all systems of the body. Residents prepare case histories stressing roentgen findings and correlative surgical and laboratory work, special studies, library and film research. RADIOLOGY

**401. Diagnostic Case Rounds.** (2) Su, F,W, Sp.

**Thoeni**

Films of interesting cases from the daily work are presented and reviewed. Roentgenograms of surgically and pathologically proved cases are correlated with the gross and microscopic pathologic findings. RADIOLOGY

**402. Diagnostic Specialty Seminar.** (3) F,W, Sp.

Required for UC residents in diagnostic radiology.

**Thoeni**

Seminars require preparation and presentation of roentgen findings on patients under discussion at medical, surgical, pediatric, obstetric and gynecologic departmental conferences and seminars on congenital heart disease, disease of the gastrointestinal tract, and orthopaedics. RADIOLOGY

**403. Emergency Radiology.** (1) F,W. Prerequisite: Required for first-year residents in radiology. Lecture 1 hour.

**Minagi**

Role of radiologist as consultant in the emergency room; head injuries, fractures, dislocations, blunt and penetrating chest trauma, blunt and penetrating abdominal trauma, trauma to genito-urinary system; management of contrast reactions; indications for, conduction of, interpretation of special radiologic procedures. RADIOLOGY

**405. Radiological Research.** (1-8) Su, F,W, Sp.

**Elective.**

**J. LaBerge**

Numerous research projects are conducted in the department and facilities are available for new ones. Residents are encouraged to take advantage of these opportunities. RADIOLOGY

**408. Radiology Specialty Seminar-SFGH.** (3) Su, F,W, Sp.

**Minagi**

Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. This course includes surgical and medical radiological rounds, consultative tumor board, clinicopathological conferences, and other department grand rounds. RADIOLOGY

**409. Radiology Specialty Seminar-VA.** (3) Su, F,W, Sp. Seminar 3 hours.

**Akin**

Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. These include medical-surgical, clinicopathological, chest, medical X-ray,

rheumatology, neurology, and neurological surgery conferences; consultative tumor board; and surgical and orthopaedic grand rounds. RADIOLOGY

**410. Radiat Effects on Genes & Chrom.** (2) W. Prerequisite: Consent of instructor. Lecture 2 hours. **S. Wolff**

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

**412. Pathology.** (1) Su, F, W, Sp. **VA Hinchcliffe**

Course includes review of surgical pathology material and attendance at autopsy rounds. RADIOLOGY

**414. Physics of Diagnostic Radiology.** (2) W, Sp. Lecture 1.5 hours. Lab 2 hours.

**R. Gould**

Course is designed to acquaint residents with the physical principles of diagnostic radiology. Topics include generation and extraction of radiologic information, image conversion, recording methods, and special-purpose equipment. CT and ultrasound physics are discussed. RADIOLOGY

**419. Growth Kinetics—Cells & Tumors.** (2) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Cleaver, Patt**

An analysis of cell population growth in tissues, tumors, and cultures. Emphasis is given to radioactive tracers such as thymidine and its biochemistry, and experimental methods for studying cell proliferation in vivo and in vitro. RADIOLOGY

**420. Nuclear Medicine Seminar.** (1) F, W, Sp. **Hattner and Staff**

Rotating assignments of topics for discussion by residents in nuclear medicine training programs in all affiliated hospitals. Critical reviews of available information in limited areas are used to provide a broad review of nuclear medicine for all trainees. RADIOLOGY

**450. Clinical Nuclear Medicine.** (1.5 per week) Su, F, W, Sp.

**Hattner and Staff**

Clinical experience in diagnostic and therapeutic nuclear medicine to satisfy requirements of American Board of Radiology for certification in diagnostic radiology and radiation therapy. RADIOLOGY

**451. Clinical Diagnostic Radiology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 450.

**J. LaBerge**

Residents, under supervision, carry out radiological examination and interpretation of X-rays of patients referred from wards and outpatient clinics. The chief resident has certain administrative duties relative to the resident training program. RADIOLOGY

**452. Clinical Diagnostic Radiology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 450. **VA Akin**

Residents, under supervision, are responsible for the diagnostic activities of the department, including diagnostic consultations and reports, history-taking, and physical examinations. In addition, the chief resident has certain administrative duties relative to the resident training program. RADIOLOGY

**453. Clinical Radiology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Radiology 450.

**SFGH Minagi**

Residents are responsible for the diagnostic activities of the department under the direction of staff radiologists including diagnostic consultations and reports, history-taking, and physical examinations. RADIOLOGY

## Removable Prosthodontics

**400. Approaches to Maxofac Prosthod.** (1) F, W, Sp. Lecture 1 hour.

**Sharma**

Course is designed to acquaint residents with multidisciplinary aspects of maxillofacial prosthetics. Lectures will be given on maxillofacial prosthetic techniques, oncology, head and neck surgery, plastic surgery, oral surgery, therapeutic radiology, psychology and related oral biology. RESTOR DENT

**489.01. Clinical Maxillofacial Prosthod.** (1-6) F, W, Sp. Lab variable.

**Sharma**

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. Introduction to Dental Morphology.** (1) F. Prerequisite: Concurrent enrollment in RD 115A. Lecture 1 hour.

**Braly**

Introductory lecture topics include tooth morphology, development and form of primary and permanent dentition. RESTOR DENT

**110B. Applied Dental Morphology.** (1) W. Prerequisite: RD 110A, 115A. Lecture 1 hour.

**Braly**

Continuation of introductory lecture course. Topics include the application of individual tooth and arch forms to interarch relationships and the instrumentation and procedures in cutting tooth structure. RESTOR DENT

**112C Procedures in Operative Dentistry.** (1) Sp. Prerequisite: RD 112B & 115.10B, and concurrent enrollment in RD 115.10C. Lecture 1 hour.

**D. Graham**

Lectures on the fundamentals of preparing teeth to receive amalgam and gold inlay restorations with

emphasis on the placement of amalgam restorations. RESTOR DENT

**113B. Occlusion.** (1) W. Prerequisite: RD 110A, RD 115A. Lecture 1 hour.

**C. McNeill**

Introductory lecture course. Topics include the application of individual tooth and arch forms to interarch relationships. RESTOR DENT

**113C. Occlusion.** (1) Sp. Prerequisite: RD 113B. Lecture 1 hour.

**C. McNeill**

Continuation of introductory lectures on the topic of the application of individual tooth and arch forms to interarch relationships. RESTOR DENT

**115A-B. Dental Morphology.** (0-4) F, W. Concurrent enrollment in RD 110A and 110B required. Lab 3 hours fall, 9 hours winter.

**Hamaguchi**

Laboratory course to study tooth morphology, occlusion, and the relationship of tooth form and function. Students will complete a series of wax-ups on casts mounted on the Denar articulator. RESTOR DENT

**115C. Dental Morphology.** (1) Sp. Concurrent enrollment in RD 113C required. Lab 3 hours.

**Hamaguchi**

Continuation of RD115A/B to include laboratory experience in mounting dental casts, centric relation, and adjustments of cast to appropriate anatomical relationships. RESTOR DENT

**115.10. Operative Dentistry laboratory.** (1) Sp. Lab 3 hours.

**Graham, Yip**

Laboratory course provides the fundamentals of preparing teeth to receive restorations and the basic principles of cavity design and preparation for amalgam restorations. RESTOR DENT

**120A. Procedures in General Restor Dent.** (4) F. Prerequisite: RD 111C, RD 112C, RD 113C, RD115.10C. Concurrent enrollment in RD 125A required. Lecture 6 hours/week for 4 weeks Pre-F; 2 hours/week for 10 weeks F

**Davis, Braly, Kahl, Graham**

Lecture course on the materials and procedures used in the dental casting process and how to use the casting process to fabricate high quality cast restorations. Additional lectures will provide information on the materials and procedures for tooth-colored restorations. RESTOR DENT

**120B. Procedures in General Restor Dent.** (1) W. Prerequisite: RD 120A, RD 125A. Concurrent enrollment in RD 125B. Lecture 1 hour.

**Kahl, Mendoza**

Lectures on the indications for and considerations in the use of partial veneer crowns as retainers for fixed partial dentures and as single restorations. Lectures will also be presented on the design, material selection, and construction of pontics for fixed partial dentures. RESTOR DENT

**120C. Procedures in General Restor Dent.** (1) Sp. Prerequisite: RD 120B, 125B. Concurrent enrollment in RD 125C. Lecture 1 hour.

**Kahl, Mendoza**

Lectures on the composition, physical properties, and appropriate selection of porcelains used in PBM restorations, the basis for shade selection and control when using PBM porcelains, and esthetic alternatives to PBM restorations. RESTOR DENT

**121B. Intro to Removable Prosthodontics.** (1) W. Prerequisite: RD 121A. Concurrent enrollment in RD 125.10B required. Lecture 1 hour.

**Dellings**

Introduction to advanced removable prosthodontics. Students will become familiar with alternative modalities of treatment for the partially edentulous patient as well as identifying and managing special situations in complete denture construction and repair. RESTOR DENT

**121C. Intro to Removable Prosthodontics.** (2) Sp. Prerequisite: RD 121B. Concurrent enrollment in RD 125.10C required. Lecture 2 hours.

**Traweck**

Continuation of introductory lectures on the theory and clinical rationale of complete denture prosthodontics. RESTOR DENT

**123. Occlusion.** (1) Sp. Prerequisite: RD 120B, RD 122B. Concurrent enrollment in RD 125C required. Lecture 1 hour.

**McNeill**

Course goal is to gain knowledge of the field of temporomandibular disorders, and the current state of the art of occlusion and TMJ. RESTOR DENT

**124. Biomaterials Science: Fundamental Properties and Metals.** (1) W. Lecture 1 hour.

**Marshall**

Lectures focus on characteristics of the oral environment important to materials; basic concepts relating to the structure, properties, and performance of materials; the arrangement, bonding, composition, and defects found in basic materials classes, including metals, ceramics, polymers, and composites. RESTOR DENT

**125A. Techniques in General Restorative Dentistry.** (6) F

**Braly, Kahl, Davis, Graham**

Laboratory instruction on preparing teeth to receive restorations, the basic principles of cavity design and preparation for amalgam, tooth-colored, and cast gold inlay and onlay restorations, preparing teeth for single unit partial and full metal crowns, design and fabrication of metal pontics, techniques in assembly and soldering of components of fixed partial dentures. RESTOR DENT

**125B-C. Fixed Prosthodontics Laboratory.** (3) W, Sp. Prerequisite: Concurrent enrollment in RD 120B and 120C (Sp). Lab 3 hours spring, 6 hours winter.

**Kahl, Mendoza**



Laboratory instruction on preparation for and construction of maxillary posterior fixed partial denture and a provisional bridge; preparing anterior teeth for partial crowns; casting metal copings for porcelain bonding; applying porcelain to metal copings. RESTOR DENT

**125.10B. Removable Partial Denture Prosthodontics Lab.** (2) W. Prerequisite: RD 121A, 125.10A. Concurrent enrollment in RD 121B required. Lab 6 hours.

**Dellings**

Laboratory course introduces second-year dental students to the clinical rationale and laboratory procedures of removable partial denture prosthodontics and prepares the student for the clinical practice of this phase of dentistry. RESTOR DENT

**125.10C. Removable Prosthodontics Lab, Complete Dentures.** (2) Sp. Prerequisite: RD 121B, 125.10B. Concurrent enrollment in RD 121C required. Lab 6 hours.

**Traweek**

Continuation of introductory laboratory instruction on the fabrication and repair of complete dentures. RESTOR DENT

**126.01. Introduction to Endodontics.** (2) F. Lecture 1 hour. Lab 3 hours.

**Goodis**

Introductory lectures and laboratory in endodontics. Lectures discuss nonsurgical endodontics and the rationale of endodontic treatment. Laboratory introduces students to the armamentarium and clinical techniques of nonsurgical endodontics. RESTOR DENT

**126.02. Introduction to Endodontics.** (2) W. Lecture 1 hour. Lab 3 hours.

**Braly, Goodis**

Lectures discuss selection of appropriate treatment for the build-up of missing tooth structures in vital and pulpless teeth, identification and removal of caries from infected teeth, and selection of appropriate bases, liners, and interim restorations. Laboratory provides experience with the armamentarium and clinical techniques. RESTOR DENT

**127. Esthetic Dentistry.** (2) Sp. Lecture 1 hour. Lab 3 hours.

**Braly**

Lectures describe esthetic alternatives in dentistry including indications and contraindications for various materials and procedures. The course emphasizes porcelain veneers and conservative posterior restorations. Laboratory instruction demonstrates how to prepare teeth for esthetic restorations and familiarizes students with various materials and clinical techniques. RESTOR DENT

**130.01. Clinical Procedures in General Restor Dent.** (1) SS1, SS2. Prerequisite: RD 120C, 121C, 123, and 126C. Lecture 1 hour.

**Pelzner**

Lecture taken concurrently with RD 139 intended to supplement the beginning clinician's knowledge of

materials, techniques, and management of the situations most frequently encountered early in the student's clinical experience. RESTOR DENT

**130.02. Clin Procedures in General Restor Dent.** (1) F. Prerequisite: RD 130.01, 130.02. Lecture 1 hour.

**J. White**

Course is designed to provide clinically relevant material in conjunction with clinical practice. Major topics include the biological and mechanical basis of operative dentistry, preparation design, clinical considerations in using composite resin, recurrent caries and bonding to tooth structure, and clinical considerations in using dental amalgam. RESTOR DENT

**130.03. Clin Procedures in General Restor Dent.** (1) W. Prerequisite: RD 130.02. Lecture 1 hour.

**Eakle**

Lecture series covering the basic procedures and materials used for single-tooth restorations using direct filling gold and cast gold. RESTOR DENT

**130.04. Clin Procedures in General Restor Dent.** (1) Sp. Lecture 1 hour. Prerequisite: RD 130.03.

**Lacy**

Survey of new dental materials and clinical techniques in esthetic restorative dentistry, i.e. esthetic posterior restorations, anterior veneers, bonded bridges, and intraoral porcelain repair. Discussion includes advantages, disadvantages, indications, and contraindications of treatment options presented. RESTOR DENT

**131. Biomaterials Science.** (1) F. Prerequisite: RD 130.01. Lecture 1 hour.

**Lacy**

Lectures will emphasize clinical application and behavior of dental materials presented in first and second years. Students are expected to develop a working knowledge of specific products by name, type, and application. RESTOR DENT

**131.01 Clin Procedures in Removable Prosthodontics.** (1) SS1, SS2. Prerequisite: RD 121C and 125.10C. Lecture 1 hour.

**Finzen**

Course begins exposure to the clinical procedures of complete denture diagnosis, treatment planning, and fabrication. It draws background information from concepts presented in the second year preclinical courses, but the emphasis is on the clinical management of edentulous patients. RESTOR DENT

**131.02. Clin Procedures in Removable Prosthodontics.** (1) F. Prerequisite: RD 131.01. Lecture 1 hour.

**Finzen**

Course continues topics pertinent to complete denture fabrication that were started in RD 131.01. It also begins exposure to the clinical procedures for the diagnosis, treatment planning, and design of removable partial dentures. RESTOR DENT

**131.03. Clin Procedures in Removable Prosthodontics.** (1) W. Prerequisite: RD 131.02. Lecture 1 hour.

**Yonemura**

Course describes the clinical procedures involved in removable partial denture fabrication. It reviews and reinforces design concepts previously given during the second and third years. RESTOR DENT

**131.04. Clin Procedures in Removable Prosthodontics.** (1) Sp. Prerequisite: RD 131.03. Lecture 1 hour.

**Curtis**

Course presents various topics in the field of prosthodontics. Areas pertinent to removable partial dentures are covered along with the subjects of dental implants, maxillofacial, and geriatric prosthodontics. RESTOR DENT

**132.01. Endodontics: Theory.** (1) F. Prerequisite: RD 130.01. Lecture 1 hour.

**Goodis**

Course is designed to teach the third-year dental student proper diagnostic procedures for non-surgical endodontic cases and to instruct in proper methods of emergency treatment. Course includes pulpal and periapical pathological entities, and correlates those entities with diagnostic methods. RESTOR DENT

**132.02. Endodontics: Theory.** (1) Sp. Prerequisite: RD 132.01. Lecture 1 hour.

**Goodis**

Course is designed to expose third-year dental students to adjunctive endodontic procedures necessary to supplement their knowledge of endodontic procedures. RESTOR DENT

**133.01. Clin Procedures in Fixed Prosthodontics.** (1) F. Prerequisite: RD 130.01, 131.01. Lecture 1 hour.

**Tueller**

Lecture series designed to assist the student in the clinical management of patients undergoing fixed partial denture construction. The lectures will amplify, extend, and update the theoretical and laboratory experience and provide clinical relevance to the material covered in the previous two years. RESTOR DENT

**133.02. Clin Procedures in Fixed Prosthodontics.** (1) W. Prerequisite: RD 133.01. Lecture 1 hour.

**Tueller**

Lecture series designed to assist the student in the clinical management of patients undergoing fixed prosthodontic treatment. Topics will include technical and biologic considerations for completing the clinical and laboratory steps of shade selection, impressions, fabricating provisional restorations, and cast articulation. RESTOR DENT

**133.03. Clin Procedures in Fixed Prosthodontics.** (1) Sp. Prerequisite: RD 133.02. Lecture 1 hour.

**Tueller**

Continuation of lecture series to assist the student in the clinical management of newer and more complex

fixed prosthodontic techniques. The traditional will be compared to the contemporary and the rationale for specific treatments in specific situations will be discussed. RESTOR DENT

**137. Clinical Endodontics.** (0-0.5) Su, F, W, Sp. Prerequisite: RD 120C, 125C, 126C. Concurrent enrollment in RD 130 lecture series required. Clinic variable.

**Goodis**

Clinical instruction and practice in the discipline of endodontics. Students are expected to pass a qualifying clinical examination by the end of spring quarter of the third year. RESTOR DENT

**138. Prosthodontics Clinic.** (0-1) Su, F, W, Sp. Prerequisite: RD 120C, 125C, 126C. Concurrent enrollment in RD 130 lecture series required. Clinic variable.

**Finzen**

Clinical instruction and practice in the discipline of prosthodontics. Students are expected to pass a clinical qualifying examination by the end of spring quarter of the third year. RESTOR DENT

**139. Clinical Restorative Dentistry.** (0-18) Su, F, W, Sp. Prerequisite: RD 120C, 125C, 126C. Concurrent enrollment in RD 130 lecture series. Clinic variable.

**Eakle**

Clinical instruction and practice in oral diagnosis and treatment planning, and restorative dentistry. Students are required to pass a series of qualifying examinations by the end of spring quarter of the third year. RESTOR DENT

**147. Clinical Endodontics.** (0-2) Su, F, W, Sp. Prerequisite: Completion of RD 130.04, 137, 138, 139. Must be taken concurrently with RD 149. Clinic variable.

**Goodis**

Continuation of clinical instruction and practice in the discipline of endodontics. Students are expected to pass a clinical qualifying examination by the end of spring quarter of the fourth year. RESTOR DENT

**148. Clinical Prosthodontics.** (0-5) Su, F, W, Sp. Prerequisite: Concurrent enrollment in RD 149. Clinic 9 hours.

**Finzen**

Continuation of clinical instruction and practice in the discipline of prosthodontics. Students are expected to pass a clinical qualifying examination by the end of spring quarter of the fourth year. RESTOR DENT

**149. Clinical Restorative Dentistry.** (0-12) Su, F, W, Sp. Prerequisite: RD 137, 138, 139. Concurrent enrollment in RD 147, 148. Clinic 9 hours.

**Pelzner**

Continuing clinical instruction and practice in oral diagnosis, treatment planning, and restorative dentistry. Students are expected to pass a series of qualifying examinations (clinical) before the end of spring quarter. 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.

**Finzen**

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.

**Finzen**

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.

**Finzen**

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 envi-

ronment. The treatment team will include medical and dental specialties. RESTOR DENT

**179.03. Temporomandibular Joint Clinic.** (0-4) Su, F, W, Sp. Prerequisite: D.D.S. degree. With consent of instructor, fourth-year students may take this course as an elective. Clinic 3 hours per week.

**McNeill**

Participation in the Temporomandibular Joint Clinic applying knowledge of history-taking and differential diagnosis and utilizing such diagnostic techniques. RESTOR DENT

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

**Lacy**

Survey of new materials and clinical techniques used in contemporary dental practice with particular emphasis on cosmetic dentistry. Topics may include, but are not limited to, dentin-bonding systems, etched porcelain restorations, methods of intraoral repair of fixed restorations, esthetic posterior restorations, alternative designs for fixed bridgework, and newly introduced products. RESTOR DENT

**180.05. Prosthodontic Procedures.** (1) W, Sp. Lecture 1 hour.

**Brigante**

An elective course offering instruction in procedures and materials other than those normally used in the clinic. RESTOR DENT

**181. Scientific Writing in Dentistry.** (2) W. Prerequisite: Registered dental student in good standing. Limited to 20 students. Conference 2 hours.

**White**

Students will produce student research journal containing literature reviews and overviews of research done by dental and dental hygiene students. Topics include writing review articles, word processing techniques, communication skills, and the steps involved in the production of a journal. RESTOR DENT

**181.02. Advanced Endodontics Concepts.** (1) W. Lecture 1 hour.

**Barkhordar**

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

**182. Implant Prosthodontics.** (1) F, W, Sp. Prerequisite: Third- or fourth-year standing. Lecture 1 hour.

**Finzen, Smith**

An elective lecture course on the restorative aspects of dental implantology. Topics include the types of dental implants, diagnostic evaluation, placement techniques, and the treatments applicable to the various types of dental implants. RESTOR DENT

**182.03. Senior Restorative Elective.** (1) F. Prerequisite: Fourth-year standing. Lecture 1 hour.

**Meli**

Advanced clinical restorative elective. Lectures describe the restorative general practice. Topics include office layout, laboratory relations, treatment limitations, financial arrangements, scheduling, and treatment failures. RESTOR DENT

**182.05. Advanced Partial Denture Design.** (1) Sp. Prerequisite: Completion of three removable partial dentures. Consent of instructor. Enrollment limited to 5 students. Seminar 1 hour.

**Finzen and Staff**

Seminar to discuss current concepts of removable partial denture design. The emphasis will be on designing RPDs for routine situations, but more complex designs will also be presented. Students will be assigned casts to design and articles to review. RESTOR DENT

**183. Lasers in Dentistry.** (1) SS1, SS2. Prerequisite: Third- or fourth-year standing and satisfactory progress in all required Restorative Dentistry courses. Lecture 1 hour or lab 3 hours.

**J. White, Goodis**

Course will provide an understanding of laser physics, tissue interaction, safety considerations, clinical research methodology, and applications of the Nd:YAG laser for intraoral hard and soft tissue. Laboratory exercises provide hands-on experience. RESTOR DENT

**183.05. Advanced Complete Prosthodontics.** (1) F. Prerequisite: Fourth-year standing. Seminar 1 hour.

**Finzen**

Seminar to discuss concepts of complete denture fabrication and maintenance reviewing the rationale for procedures normally used in the clinic, and the selection of the appropriate alternate procedures where indicated. RESTOR DENT

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

**Fett, Setcos**

Course will concentrate on adhesive bonded ceramic inlays in posterior teeth. Topics include indications for bonded restorations, tooth preparation, operation of a CAD/CAM system, bonding procedures, finishing and polishing techniques. A literature review will give the students a perspective of the indications of computer-aided dentistry to date. RESTOR DENT

**186.04. Restorative Materials Procedures.** (1) F, W, Sp. Prerequisite: Open to fourth-year students with the approval of the chairperson of the division. Enrollment limited. Clinic 3 hours.

**Birtcil**

Techniques and procedures for Class II, III, and V gold foil restorations using 24-karat direct filling gold. Students learn to use various direct filling gold materials such as fibrous gold foil, goldent, and electroloy. RESTOR DENT

**187. Implant Prosthodontics Clinic.** (0.5-3) Su, F, W, Sp. Prerequisite: Fourth-year standing. Must be taken concurrently with RD 182 and the Oral &

Maxillofacial Surgery Clerkship (O&MS 189.04). Lab 1-3 hours, Clinic 1-6 hours.

**Finzen, R. Smith**

An elective course that provides clinical and laboratory experience in the restorative aspects of dental implantology. RESTOR DENT

**187.04. Adv Clinical Operative Dentistry.** (0-4) Su, F, W, Sp. Prerequisite: Fourth-year standing and permission of instructor. Clinic 3-12 hours.

**Birtcil**

Advanced instruction in clinical operative dentistry with emphasis on quadrant dentistry and complex restorative procedures. RESTOR DENT

**188.02. Advanced Clinical Endodontics.** (0-4) Sp. Prerequisite: Fourth-year standing. Clinic variable.

**Barkhordar**

Advanced instruction in the field of clinical endodontics. RESTOR DENT

**199.01. Biomaterials Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

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

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

**199.02. Endodontics Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

**Goodis, Barkhordar, Srinivasan**

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

**199.03. Fixed Pros Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

**Tueller, Davis**

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

**199.04. Oper Dent Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

**White, Lacy**

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

**199.05. Remov Pros Laboratory Project.** (1-5) F, W, Sp. Prerequisite: Consent of instructor and approval of the chairperson of the department. Lab 3-15 hours.

**Finzen, Hutton**

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

**210. Advanced Concepts in Biomaterials.** (1) § Sp. Prerequisite: DDS, DMD, or equivalent degree. Must be enrolled in a postdoctoral specialty program. Lecture 1 hour.

**Marshall**

This graduate core course in biomaterials science introduces the student to the broad scope of the biomaterials field. A basic knowledge of dental materials is assumed and biomaterials principles are emphasized during discussion of current methods and problems in the field as related to dentistry. RESTOR DENT

**401. Concepts of Occlusion.** (2.5) Su. Must be enrolled in postdoctoral prosthodontics program. Lecture 2 hours. Clinic 2 hours.

**Hong**

A review of various concepts of occlusion. Clinical diagnostic procedures and treatment modalities will be reviewed and demonstrated. RESTOR DENT

**410. Advanced Fixed Prosthodontics.** (1) F Lecture 1 hour.

**Kinsel**

The lectures will present the rationale and methodology in the use of fixed appliances to restore the dentition of patients with missing teeth or malocclusion. RESTOR DENT

**411. Advanced Endodontics Seminar.** (1) F Lecture 1 hour.

**Barkhordar, Casanova**

The lecture series will focus on the diagnosis and management of complex endodontic problems. RESTOR DENT

**412. Advanced Removable Prosthodontics.** (0-2) Su, F, W, Sp.

**Green**

The series will cover the rationale and methodology in using removable prosthetics in the care of patients with complex oral problems. RESTOR DENT

**416. Emergency Dental Care.** (0-2) Su, F, W, Sp. Must be first-year student in the AEGD program.

**Nakahara, Kirkland**

A seminar series will provide information on the diagnosis and management of dental and medical emergencies. The trainee will provide consultations and care for patients presenting at the Emergency Room in the Dental Clinics Building. RESTOR DENT

**418. Prosthodontics Clinic.** (0-40) Su, F, W, Sp. Must be student in the AEGD program. Clinic rotation 300-1200 hours.

**Finzen**

Advanced prosthodontic clinical treatment utilizing a variety of treatment philosophies, articulating instruments, and techniques. RESTOR DENT

**419. Advanced Comprehensive Dental Care.** (0-41) Su, F, W, Sp. Must be enrolled in the AEGD program. Clinic 24 hours/week for 50 weeks.

**Kirkland, Nakahara, Chin**

Residents will provide advanced comprehensive dental care. RESTOR DENT

**426. Advanced Endodontics for the Generalist.** (2.5) Su, F. Must be second-year student in the AEGD program. Seminar 1.5 hours. Clinic 4 hours.

**Casanova**

This seminar and clinical course will focus on the diagnosis and management of advanced endodontic problems. RESTOR DENT

**427. Advanced Restorative Dentistry for the Generalist.** (0-5) F, W, Sp. Must be second-year student in the AEGD program. Seminar 1 hour. Clinic 2 hours.

**Lacy**

This seminar and clinical demonstration course will provide instruction and supervision in the most recent advances in the management of restorative dental problems. RESTOR DENT

**428. Prosthodontics Clinic.** (0-40) Su, F, W, Sp. Clinic 300-1200 hours.

**Finzen**

Advanced prosthodontic clinical treatment utilizing a variety of treatment philosophies, articulating instruments, and techniques. RESTOR DENT

**429. Complex Comprehensive Dental Care.** (0-16.5) Su, F, W, Sp. Must be second-year student in the AEGD program. Clinic 10 hours.

**Nakahara, Kirkland**

Provision of comprehensive dental care for patients with complex medical and dental needs. RESTOR DENT

**438. Prosthodontics Clinic.** (0-40) Su, F, W, Sp. Clinic 300-1200 hours.

**Finzen**

Advanced prosthodontic clinical treatment utilizing a variety of treatment philosophies, articulating instruments, and techniques. RESTOR DENT

**486. TMD & Facial Pain.** (0-11.5) Su, F, W, Sp. Must be first-year student in the AEGD program or by permission of instructor.

**McNeill, Becker**

The seminar will focus on the rationale and techniques used in the diagnosis and treatment of patients with TMD or facial pain. This will include history-taking, imaging techniques, and behavioral modification. RESTOR DENT

**489. Advanced TMD for the Generalist.** (0-12) Su, F, W, Sp. Must be second-year student in the AEGD program.

**McNeill**

This experience will allow the second-year AEGD trainee to provide direct services to patients with temporomandibular dysfunction (TMD). RESTOR DENT

**Sociology**

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

**Staff**

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

**203. Social Psychology of Chronic Illness.** (2-3) § Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Field work 0-3 hours.

**G. Becker**

Course provides discussion of problems faced by chronically ill persons and their families including crisis management, handling symptoms, managing regimens, social isolation, phases of disease, temporal difficulties, normalization, dying, as well as policy issues confronting health care personnel and the general public. SOC BEH SC

**205. Health Professions, Occupations, and Work.** (3) § W. Lecture 2 hours. Lab 3 hours.

**C. Harrington**

Course examines the nature of occupations and professions; their constellation in hospitals and clinics, the medical division of labor, specialties and specialization, professional and occupational ideologies, the sociology of work relationships, careers. SOC BEH SC

**207. Sociology of Health & Medicine.** (3) § Sp. Seminar 2 hours. Lab 3 hours.

**C. Estes**

Course introduces the student to classical perspectives in medical sociology and development of a critical perspective in the field to serve as a foundation for independent and advanced study in medical sociology. SOC BEH SC

**208. Social Psychol of Hlth & Illness.** (3) § F

Prerequisite: Required for doctoral students in sociology. Restriction: Doctoral-level students in nursing or sociology. Lecture 2 hours. Lab 3 hours.

**Staff**

Course examines the relationship of social class, ethnic identification, group membership, family structure, occupation, and life style to health and illness, and therapeutic interaction of lay persons and health professionals. SOC BEH SC

**209. Sociology of Power.** (2-4) § F, W, Sp. Prerequisite: A graduate-level sociological theory course. Restrictions: Doctoral students only. Lecture 2-4 hours.

**C. Estes**

Course surveys the classical and contemporary sociological issues in theoretical and empirical work on power; explores underlying assumptions and paradigms emerging and reflecting a sociopolitical milieu. The student will analyze literature and debates on power structure research and theory. SOC BEH SC

**212A. Sociological Theory.** (3) § F. Lecture 2 hours. Field work 3 hours.

**A. Szasz**

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: Contemporary.** (3) § W. Prerequisites: S212A and must be a doctoral student. Lecture 2 hours. Lab 3 hours.

**C. Estes**

Course examines and evaluates contemporary contributions to sociological theory. The main objective is the generation of a critical capacity with respect to received theory in both its formal and substantive varieties. SOC BEH SC

**212C. Sociological Theory.** (3) § Sp. Prerequisites: S212A and must be a doctoral student. Lecture 2 hours. Lab 3 hours.

**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.** (5) § F, Sp. Prerequisite: Doctoral level. Lecture 2 hours. Field work 9 hours.

**A. Clarke, V. Olesen,**

Course offers sociological perspectives on the dimensions and properties of research in natural, social settings. Focus is upon developing skills in negotiating entree, watching, listening, and recording of data. Emphasis is upon developing conceptual schemata in preparation for analysis. SOC BEH SC

**214B. Qualitative Analysis.** (5) § W. Prerequisite: Doctoral level; Sociology 214A. Lecture 2 hours. Field work 9 hours.

**A. Clarke, V. Olesen**

Course examines modes of analysis applicable to qualitative data; emphasis on dimensions and properties exhibited in student-presented data. SOC BEH SC

**214C. Qualitative Analysis.** (3) § F, W, Sp. Prerequisite: Doctoral level; Sociology 214A and 214B. Lecture 2 hours. Lab 3 hours.

**A. Strauss**

Course provides qualitative analysis and the development of substantive and formal sociological theory. Emphasis is on student-presented data and their conceptualization. SOC BEH SC

**215. Organizational Research.** (2-4) § F, W, Sp. Prerequisite: Sociology 216 encouraged but not required and consent of instructor. Lab 3-9 hours. Conference 1 hour.

**E. Lurie**

Course will place students in organizations to provide opportunities to conduct research; apply and develop organizational theory; develop applied sociological, practical, and administrative skills and experience for students; and make sociologists attractive and salient to organizations outside academic settings. SOC BEH SC

**216. Comp Orgs: National & Intl Perspec.** (3) § F Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**Staff**

Course is a comparative review of contributions to the sociology of formal organizations of health care. A variety of organizational forms will be considered with special emphasis on national and international health care comparisons. SOC BEH SC

**217. Future of the Family Seminar.** (3) § F,W,Sp. Lecture 2 hours. Lab 3 hours.

**R. Staples**

Course explores changing dating, sexual, sex-role, marital, and familial patterns in the United States. Discussion of futuristic models of family life as affected by sociocultural forces. Special emphasis given to changing sex-role behavior as affecting male-female relationships. SOC BEH SC

**218. Adv Topics in the Socio-Analysis of Aging.** (2-4) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours.

**C. Estes**

Course is designed for doctoral students investigating advanced research issues preparatory to qualifying examinations. Topics to be analyzed will vary each year, but will be focused upon a specific area. Laboratory assignments are for research activities on special topics in the area of aging. SOC BEH SC

**219. Social Policy & Aging.** (2-4) § W,Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours.

**C. Estes**

Course will provide a critical analysis of major social, economic and political issues of growing old in America; will examine social policy in the public and private sectors including health, income, and social services; and consider prospects for social change and political movements. SOC BEH SC

**220. Sociology Seminar.** (2-4) § F,W,Sp. Prerequisite: Consent of instructor. Required for graduate students in Sociology. Seminar 2 hours. Lab 0-6 hours.

**C. Estes**

Doctoral students discuss methods and problems in current research. Course may be repeated for credit. SOC BEH SC

**221A-B-C. Qualifying Examinations.** (4-4-4) § A: F,W,Sp. B: F,W,Sp. C: F,W,Sp. Prerequisite: Preparation for qualifying examinations. Open to graduate students in Sociology only.

**Staff**

Qualifying examinations for graduate students in sociology are given in three areas: sociological theory, medical sociology, and special interest. The course will provide for preparation in each area. SOC BEH SC

**223. Perspectives on Public Policy.** (3) § W,Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**R. Newcomer**

Course offers systematic overview of health policy in American government—its scope, dynamics, and conceptual and practical dilemmas. Students will become acquainted with major issues involved in formulating, financing, implementing, and assessing patterns of decision (i.e., policy) established by government. SOC BEH SC

**225. Policy & Hlth Care Institutions.** (3) § F,W,Sp. Prerequisite: N287A or consent of instructor. Lecture 2 hours. Lab 3 hours.

**R. Newcomer**

Course describes and analyzes approaches to understanding the development of health policy and relationships between health policy and decision making within health care institutions. SOC BEH SCI

**226. Families of the Third World.** (3) § F,W. Lecture 2 hours. Lab 3 hours.

**R. Staples**

Course examines family structures and dynamics among Third World peoples. Families to be discussed include Africans and Afro-Americans, Asians, Native Americans, and Latinos. Emphasis is on continuities in the family life of these groups in their native land and in the United States. SOC BEH SCI

**230. Socio-cultural Issues in AIDS.** (3) § W,Sp. Lecture 2 hours. Lab 3 hours.

**C. Harrington**

Course examines the history and social psychology of AIDS in relation to health, illness, disease, and death. Includes demographic trends, the cost burden, and special problems of minorities, women, and caregivers, along with policy issues. SOC BEH SC

**232. Adv Problems in Soc Psychology.** (2-4) § F,W,Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Field work 0-6 hours.

**V. Olesen**

An advanced seminar dealing with theoretical and conceptual problems in various areas of social psychology. Recent developments in theory and concept will be reviewed. SOC BEH SC

**233. Sociology of Aging.** (3) § W,Sp. Lecture 2 hours. Lab 3 hours.

**P. Fox, S. Kaufman**

Course reviews theories of aging including a review of theories of aging, current and historical trends in aging, factors related to aging, effects of aging on individuals and families, and formal and informal service systems for an aging population. SOC BEH SC

**234. Health & Aging.** (2-3) § F,W,Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-3 hours.

**G. Becker, S. Kaufman**

Course examines the health status of the aged in the United States related to biological, behavioral, socio-cultural, and environmental factors. Social, cultural, and economic factors affecting organization, financing, and delivery of health care to the aging population will be examined. SOC BEH SC

**235. Health Factors in Marriage & Family Behavior.** (3) § F,W,Sp. Prerequisite: Consent of instructor. Graduate standing. Lecture 2 hours. Lab 3 hours.

**R. Staples**

Course will explore how marital and family behavior generates mental and physical health problems. Topics are family violence, child abuse, sexually transmitted diseases, suicide, psychological problems, and the relationship of marital status to morbidity and mortality. SOC BEH SC

**236. Race/Class Factors in Hlth Care Delivery.** (3) § W. Prerequisite: Consent of instructor. Graduate standing. Lecture 2 hours. Lab 3 hours.

**R. Staples**

Course examines racial and class membership impact on access to health care services, variations in the quality of those services, and how professional and subprofessional roles in the health care system are organized along racial and class lines. SOC BEH SC

**237. History of Sociological Thought.** (3) § F,W. Restriction: Doctoral-level students. Lecture 2 hours. Field work 3 hours.

**Staff**

Graduate introduction to history of sociological thought. Provides perspective and vocabulary for examining major schools of thought which constitute sociological tradition. Discussion of conceptual paradigms and their relationship to theory will provide understanding of sociological work. SOC BEH SC

**238. Advanced Studies in Women's Health.** (2-4) § F,W,Sp. Seminar 2 hours. Lab 0-6 hours.

**Staff**

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**

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.

**C. Estes**

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.

**Staff**

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.

**Staff**

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.

**Staff**

An advanced survey of qualitative research methods in analysis of women's participation in health and healing systems. Will review epistemological assumptions, analytic strategies, design and modes to assure credibility, plausibility. Will focus on data sources and analysis of data. SOC BEH SC

**245. Gender and Science.** (3) § Sp. Seminar 3 hours.

**A. Clarke**

Course is a study of historical and contemporary issues in the social construction of biological and medical sciences, epistemological problems, and feminist perspectives. Focus is on impact of gender on scientific work and includes scientific constructions of gender and women's careers in science. SOC BEH SC

**247. Policy Issues & Political Processes.** (3) § Sp. Prerequisite: S219, or S260, or equivalent and/or consent of instructor. Lecture 2 hours. Field work 3 hours.

**C. Harrington, C. Estes**

Course analyzes issues and trends in legislation and politics of health and examines health professionals' roles in developing strategies to influence legislative and political processes that affect planning and delivery of care. SOC BEH SC

**248. Group Independent Study.** (1-4) § F,W,Sp. Prerequisite: Consent of instructor. Seminar 1-4 hours.

**Staff**

Groups of two or more students select special problems to investigate on a collaborative basis. These studies may be conducted through readings, the collection or analysis of empirical data, or the development of conceptual analysis or of methodologies. SOC BEH SC

**249. Special Studies.** (1-8) § F,W,Sp. Prerequisite: Consent of instructor.

**Staff**

Students select special problems to investigate on an individual or collaborative basis. These studies may be conducted through readings, the collection or analysis of empirical data, or the development of conceptual analysis or of methodologies. SOC BEH SC

**251. Women's Health: Socio-Cultural.** (2-4) § Sp. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours.

**Staff**

Exploration of relationship between culture and health for women in non-Western societies. Effects of modernization and migration on utilization of traditional and cosmopolitan health care and on women's roles as providers will be discussed, and contemporary controversies will be analyzed. SOC BEH SC

**252. Women's Health: Socio-Historical.** (2-4) § W. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours.

**A. Clarke**

Sociological analysis of women's health status, roles as providers and patients, and the development of medical ideas about women from a historical perspective. Emphasis on 19th- and 20th-century developments in industrialized societies. SOC BEH SC

**253. Sociology of Reproduction.** (2-4) § Sp. Lab 0-6 hours. Seminar 2 hours. Offered in alternate years. Not offered 1993-94.

**A. Clarke**

Course focuses on recent theoretical and substantive developments concerning female sexuality, birth control, population control, abortion, reproductive technologies, and pregnancy/childbirth. Examines race and class relations and concerns of the state, science, and medicine. SOC BEH SC

**254. Women's Health: Policy Issues.** (2-4) § W. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours.

**Staff**

Consideration of factors in the emergence of issues in women's health and related policy. Perspectives on women as policymakers and the implementation of policy on women's health, participation in care and healing systems and access to training. SOC BEH SC

**255. Environment and Health.** (2-3) § F. Lab 0-3 hours. Seminar 2 hours. Offered in alternate years. Not offered 1993-94.

**Staff**

Course analyzes social, psychological, and biological perspectives about environmental influences on health. Reviews institutionalization, housing, and potential sources of environmental stress and their effects on adaptation across the life cycle. SOC BEH SC

**256. Introduction to Survey Research.** (3) § Sp. Prerequisite: Biostatistics 183 and 185AB or equivalent. Restriction: Doctoral level; non-doctoral stu-

dents may enroll upon consent of instructor. Lecture 2 hours. Lab 3 hours.

**R. Newcomer**

Course introduces sample theory, sample development, and methods of survey research. Course provides rudimentary skills for those conducting their own research and large field surveys. SOC BEH SC

**257. Minority Health and Aging.** (2-3) § F,Sp (offered once yearly). Lecture 2 hours. Field work 0-3 hours.

**V. Jones**

Course explores the diversity of racial and ethnic variation and examines the health and aging experience of minority elderly within the context of families, communities, and the nation. SOC BEH SC

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

**C. Harrington**

Course examines health care policy and politics in terms of historical and contemporary issues related to access, quality, and cost. Organizational, financing, and labor market issues are included, along with strategies for social change. SOC BEH SC

**262. Health Care Economics.** (3) § F. Lecture 2 hours. Lab 3 hours.

**C. Harrington**

Course is a critical analysis of economic theories and public and private financing of health care. Focuses on the effects of financing and reimbursement on health care delivery systems, professional practice, and individuals and families. SOC BEH SC

**266. Leadership in Long-Term Care.** (3) § W,Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Lab 3 hours.

**C. Harrington**

Seminar examines leadership and administration in long-term care settings. Focuses on organization, budgeting, program planning, management, educational programs, and service delivery with emphasis on creative approaches and testing new models and theories. SOC BEH SC

**270A. Quantitative Methods I.** (3) § F. Restriction: Doctoral students in Sociology or consent of instructor. Lecture 2 hours. Lab 3 hours.

**R. Newcomer**

Course examines quantitative research methods used in sociological inquiry. The focus is on scientific models, problem formulation, use of theoretical frameworks, levels of analysis, settings and strategies, specification of constructs, and selection of indices. SOC BEH SC

**270B. Quantitative Methods II.** (3) § W. Prerequisite: S270A (Quantitative Methods I). Restriction: Doctoral students in Sociology or consent of instructor. Lecture 2 hours. Lab 3 hours.

**R. Newcomer**

Course examines quantitative research methods including issues of sampling, reliability and validity, data collection, analysis, and inference. The course exam-

ines 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, S. Kaufman**

Course provides clinical experience in multidisciplinary assessment for sociologists, nurses, physicians, and other clinicians. Course involves application of social, psychological, economic, and other factors in assessment. SOC BEH SC

**277. Sociology of Disability.** (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**M. LaPlante**

Course covers sociological models and theories of disability and handicap. Areas to be covered include definitions, utility of role theory, models of identification and causation, and sociological perspectives on disability policy. SOC BEH SC

**278. Sociology of Alcohol and Drugs.** (2-3) § F. Lab 0-3 hours. Seminar 2 hours. Offered in alternate years. Not offered 1993-94.

**K. Fillmore**

Course examines alcohol and drug use from multiple theoretical perspectives in various historical and cultural contexts. Examines the distribution of alcohol and drug use across and within societies and various policies and their consequences for the control and management. SOC BEH SC

**279. Nutrition and Chronic Illness.** (2-3) § F. Lab 0-3 hours. Seminar 2 hours. Offered in alternate years. Not offered 1993-94.

**B. Johnstone**

Course introduces social and biological perspectives on nutrition and chronic illness. Examines interactions between nutritional factors, chronic illness, the aging process, alcohol and substance abuse, and other such factors. Emphasizes a critique of empirical research in the area. SOC BEH SC

**280. Meta-Analysis in Health Research.** (3) § F. Prerequisite: Basic research statistics and Research Methods (S270AB or N295). Lab 3 hours. Seminar 2 hours. Offered in alternate years. Not offered 1993-94.

**K. Fillmore**

Course introduces meta-analysis techniques and applications in health research, including research design, sampling and data collection, and analytical techniques and software. Uses examples from drug and alcohol studies, and other health care evaluation studies. SOC BEH SC

**281. Justice, Equity, and Health Care.** (2-3) § F. Lab 0-3 hours. Seminar 2 hours. Offered in alternate years. Not offered 1993-94.

**Staff**

Course examines how health care, a scarce resource, is divided among members of society, including theories from philosophy, medical ethics, economics, political science, sociology, and psychology. Examines justice and equity issues for different groups and among different health policies. SOC BEH SC

**282. Sociology of Science/Technology.** (2-4) § W. Lab 0-6 hours. Seminar 2 hours. Offered in alternate years. Not offered 1993-94.

**A. Clarke**

Course examines early functionalist and Marxist theories, Kuhn's work, social constructionist, ethnomethodological, interactionist, neo-functionalist, critical, and neo-Marxist perspectives. Focuses on laboratory, controversy, technological, and representational studies and organization and funding. Links history and philosophy. SOC BEH SC

**283. Selected Topics/Health Economics.** (2-3) § W. Prerequisite: S262 (Health Care Economics). Lab 0-3 hours. Seminar 2 hours.

**R. Miller**

Course examines selected topics in health care economics, with attention to basic economic theory of supply and demand for health care services and health insurance. Includes national health insurance proposals and the Canadian health care system. SOC BEH SC

**284. Research on AIDS/HIV Illnesses.** (3) § Sp. Prerequisite: S230 (Socio-cultural Issues in AIDS). Lab 3 hours. Seminar 2 hours. Offered in alternate years. Not offered 1993-94.

**C. Harrington, W. Holzemer**

Course examines research in social and behavioral aspects of AIDS/HIV related illnesses and critiques methods, data collection, and analyses aspects of the research as well as the theoretical bases for the work. SOC BEH SC

**285. Sociocultural Variations in Health.** (3) § F. Lecture 2 hours. Field work 3 hours.

**R. Staples**

Course addresses variations in health attitudes and practices among diverse groups in the United States, with implications for nursing practice. SOC BEH SC

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

**A. Clarke**

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

**287. Black Families in America.** (2-3) § W, Sp. Lecture 2 hours. Lab 0-3 hours.

**R. Staples**

Course provides a sociological interpretation of the black family institution in the United States of America. It examines black family culture, values, roles, socialization processes and class and gender variations. Emphasis is on changes in the last thirty years. 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 1993-94.

**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 1993-94.

**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) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 1 hour. Offered in alternate years. Offered 1993-94.

**Staff**

Topics include forebrain representation of complex spectra (including speech) and of sound localization (including echolocation in bats and whales); cognitive development related to hearing; auditory consequences of such pathologies as brain lesions and autism; and objective assessment of forebrain mechanisms. OTOLARYN

**204. Speech Production and Perception.** (4) § F. Lab 2 hours. Seminar 3 hours.

**Turner**

This course is part of a two-year core curriculum covering the communicative neurosciences. It is the first course in the sequence which considers speech and language. It will cover basic acoustics, acoustic phonetics, the anatomy and physiology of speech production, and theories of speech perception. OTOLARYN

**205. Language Science.** (3) § Sp. Lecture 2.5 hours. Lab 2 hours. Offered in alternate years. Not offered 1993-94.

**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 1993-94.

**Staff**

Review of the physics of sound as it applies to the study of speech and hearing. Theoretical and practical approaches to the analysis of signals and the fundamentals of system analysis. Practical application of acoustic research equipment. OTOLARYN

**215. Laboratory Rotation.** (1-4) § F, W, Sp. Prerequisite: Consent of instructor. Lab 3-12 hours.

**Staff**

For students who arrange a rotation in the research laboratory of a faculty member. Students will participate in an ongoing research project and review relevant literature. OTOLARYN

**220. Speech and Hearing Science.** (1) § F, W, Sp. Seminar 1 hour.

**Staff**

This seminar series will consist of weekly presentations by the faculty, students, research personnel in the department, and visiting scientists. Topics will cover the range of speech and hearing sciences, including anatomy, physiology, psychophysics, speech, clinical diagnosis, and rehabilitation. OTOLARYN

**221. Electrophysiology & Audiology.** (4) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 3 hours.

**Gardi and Staff**

Review of the development of electrophysiological approaches to studying auditory functions with particular emphasis on auditory-evoked response measurement. Lectures and laboratory exercises will stress equipment design and calibration, data collection, analysis, and interpretation. OTOLARYN

**222. Auditory Psychophys & Physiol.** (3) § Sp. Lecture 3 hours.

**Staff**

A coordinated coverage of basic auditory function. The physiology of the peripheral auditory system and basic perceptual correlates. Physics of sound, cochlear mechanics and microphonics, VIII nerve physiology, thresholds, masking, pitch, loudness, temporal adaptation, frequency analysis, binaural perception, and processing are included. OTOLARYN

**224. Animal Psychophysics.** (3) § Sp. Seminar 3 hours.

**Jenkins**

Reading and discussion of selected papers on modern behavioral methods for obtaining information on the sensory capacities of animals. Students will have access to equipment and a microcomputer so that one or more behavioral methods can be implemented. OTOLARYN

**225. Inner Ear Form and Function.** (3) § F, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

**Leake**

This course will consider the gross morphology, histology, ultrastructure and function of the mammalian cochlea and vestibular sensory organs. Instruction will include lectures, demonstrations, dissections and student presentations. OTOLARYN

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

**Staff**

Directed reading and laboratory work in the auditory process and its disorders. OTOLARYN

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

**Staff**

Students and instructor develop jointly a study plan involving tutorials, reading, and laboratory work. Students engage in intensive exploration of specific topics related to the anatomic, physiologic, psychophysical, and behavioral aspects of the speech and hearing sciences. OTOLARYN

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

**Staff**

Students participate in ongoing research or initiate independent research project under guidance of supervising instructor. Assignments include literature review, design of research, execution of research, data reduction and analysis, and reporting. OTOLARYN

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

**Staff**

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

## Stomatology

**100. HIV/AIDS: A Current Review.** (2) W. Prerequisite: Dental I, Dental Hygiene I. Lecture 2 hours.

**Bartnof, D. Greenspan, Levy**

An overview of the HIV/AIDS pandemic, with a selected focus on basic and clinical sciences, and social/psychosocial aspects. Sixteen hours are presented in lecture format, two hours as panel presentations, and two hours as emphasized review sessions. STOMATOL

## Surgery

**110. Clinical Clerkship in General Surgery.** (1.5 per week) Su, F,W, Sp. Prerequisite: Core curriculum in basic sciences; third-year standing.

**Macho**

A basic course in surgery designed to cover those aspects of surgery which should be familiar to all practitioners. Students are assigned to work with ward teams and also to participate in teaching seminars. SURGERY

**111. Advanced Surgery Core Clerkship.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110 and Surgery 110.

**Reilly**

Students are senior clerks on wards, in operating rooms at UC, SFGH, and VA. Rounds, seminars focus on physiological approach to surgery. Clinical clerkships in surgical specialties may be taken with prior approval of specialty department and Department of Surgery. SURGERY

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

**Reilly, Pellegrini**

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

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

**Reilly, Schrock**

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

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

**Reilly, Lewis**

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

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

**Reilly**

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

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

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

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

**140.02. Off-Campus Clerkship.** (1.5 per week) Su, F,W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111.

**Debas**

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

**140.03. General Surgery—PMC.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110.

**Russell**

Students serve as acting interns on general surgical service; participate in preoperative assessment, intraoperative management and postoperative care of patients; participate in outpatient clinics as well as selected physicians' offices; participate in daily ward rounds and teaching conferences. SURGERY

**140.04. Vascular Surgery Clerkship.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110, Surgery 110 and 111.

**Goldstone**

Students serve as acting interns on the vascular surgery team, participating in preoperative, intraoperative, and postoperative management of patients, as well as in clinics, rounds, and conferences. SURGERY

**140.05. Operable Heart Disease.** (1.5 per week) Su, F,W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111.

**Rankin**

Ward rounds and conferences on patients with operable, congenital, or acquired heart disease. Details of selection, differential diagnosis, and results of surgery are discussed. SURGERY

**140.06. Emergency Medicine—SFGH.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110 or Surgery 110 and 111.

**Neighbor**

Students care for patients in the Emergency Department at SFGH as acting interns, and care for all medical and surgical problems. The rotation focuses on wound-care techniques (including suturing), didactic conferences, and bedside one-to-one instruction by senior residents and faculty. SURGERY

**140.07. Shock & Trauma Research.** (1.5 per week) Su, F,W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111.

**F. Lewis**

Course involves clinical and laboratory investigation and a detailed study of specific patients with trauma and shock. SURGERY

**140.08. General Surgery—C.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110 & Medicine 110.

**V. Richards**

Students work as interns on Surgical Service; they evaluate general surgical patients preoperatively; work with patients in operating room; assume graduated, increasing responsibility in postoperative management. Rounds and conferences enhance clinical experience; interaction with staff in patient care emphasized. SURGERY

**140.09. Trauma Surgery—SFGH.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110 and 111 and consent of instructor.

**Schecter**

Clinical clerkship in the Trauma Service of the Department of Surgery at SFGH. The student will work at intern-clerk level as an integral part of the service. SURGERY

**140.10. Cardiothoracic Surgery.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110 and 111.

**Rankin**

As an integral member of the cardiothoracic team, the student directly and actively shares in preoperative evaluation, operative procedures, and postoperative care. Cardiac and thoracic conferences and daily ward rounds provide the didactic teaching. SURGERY

**140.11. Burn Care—SFGH.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110.

**J. Horn**

Clinical rotation on a large Burn Center Service. Pathophysiology of thermal injury including pulmonary aspects will be stressed. Students act as integral members of the team and participate directly in patient care. SURGERY

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

**Mathes**

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

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

**Mathes**

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

**140.13. General Surgery—VAF.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110 and 111.

**O'Hara**

Students receive broad clinical experience in general surgery at VAF and with practicing surgeons in selected community settings in the central San Joaquin Valley. Balance between VAF and community assignments is individually arranged according to students' interests. SURGERY

**140.14. Surgical Intensive Care Clerkship—VMC.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110 and 111. Fourth-year students only.

**Parks**

Clerkship offers an "organ systems" approach to critical surgical illness with experience in invasive and

noninvasive monitoring and appropriate therapeutic interventions. Course is aimed at providing patient management experience and familiarity with basic science concepts and literature upon which surgical intensive care is based. SURGERY

**140.15. Burn Center Clerkship—VMC.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110 and 111. Fourth-year students only.

**Parks**

Presents a clinical spectrum in critical-care medicine: burn wound infection control, resuscitative management, hemodynamic monitoring, with emphasis on appropriate nutritional and metabolic support. Also stressed are psychological and emotional needs of patients. Students participate as full members of the Burn Team. SURGERY

**140.16. Nutritional Support Service—SFGH.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110.

**Hickey, Weaver**

Students will be instructed in the formulation and administration of parenteral and enteral feedings; the insertion of subclavian catheters; the management of metabolic/nutritional problems. Students will perform nutritional assignments and activity, and participate in daily rounds at San Francisco General Hospital. SURGERY

**140.17. Pediatric Surgery.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110 and 111. Clinic 40.

**Harrison**

The student works as acting intern on a busy pediatric surgical service assisting in pre- and postoperative management and in the operation. An interesting, wide variety of problems is encountered. SURGERY

**140.18. Liver Transplantation.** (1.5 per week) Su, F,W, Sp. Prerequisite: Medicine 110, Surgery 110.

**Ascher and Staff**

Students will participate in evaluation of potential liver recipient (including HLA-typing, crossmatch, immune monitoring), observe the liver transplant procedure, participate in postoperative care (including immunosuppressive management and mechanisms of graft rejection). Student will attend pertinent conferences, clinics, and daily rounds. SURGERY

**140.19. Advanced Clinical Surgery—VMC.** (1.5 per week) Su, F,W, Sp. Prerequisite: Surgery 110 and 111. 4th-year standing.

**Parks, Gladen**

Senior clerkship responsibilities include participation as member of busy patient care team, with emphasis on pre- and postoperative care, supervised clinic and operating room assignments, and participation in departmental conferences. The aim is to provide exposure to a spectrum of elective and emergency surgical problems. SURGERY

**140.21. Clinical Trauma Surgery—VMC.** (1.5 per week) Su, F,W, Sp, SS1, SS2. Prerequisite: Surgery 110.

**S. Parks, J. Davis**

Subinternship responsibilities are to participate on a busy patient care trauma service emphasizing resuscitation, evaluation of injury, operating room participation, postoperative followup. There is also experience with non-operative management of trauma. The student will participate in departmental conferences. SURGERY

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

#### Hunt

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

**160.05. Advanced Surgery Reading.** (2) F, Sp. F. Lewis

A weekly seminar where previously assigned papers are discussed and critiqued. Papers representing the classical and current concepts in general surgery are covered. SURGERY

**160.06. Total Parenteral Nutrition.** (5) Su, F, W, Sp. Prerequisite: Surgery 110 and consent of instructor. Lecture 3 hours. Lab 6 hours.

#### Hickey

Course emphasizes nutritional and metabolic requirements of injured, ill, and malnourished patients. Clinical rotation involves methods of preparation, administration, and assessment of patients receiving calorie protein or amino acid support as part of specific therapy. SURGERY

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

#### Debas and Staff

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

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

#### Debas and Staff

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

**400. General Surgery Staff Conf.** (1.5) F, W, Sp. UC Debas, SFGH Lewis, VA L. Way

Conferences include presentation of case studies with reference to the literature, case records, laboratory tests, and special studies. Faculty and occasional guest lecturers discuss surgical problems. Death and complications are reviewed weekly. SURGERY

**402. General Surgery Pathology Sem.** (1) F, W, Sp. Interns and residents.

#### McKerrow

Seminars include case reports and demonstrations of the currently available gross and microscopic surgical pathological material from the operating rooms and pathology laboratories. SURGERY

**403. General Surgery Seminar.** (2) Su, F, W, Sp. Interns and residents. DMC Heer, SFGH Lewis, UC Debas, VA L. Way

Seminar is held in the surgical wards with discussion of current problems concerning the diagnosis and management of general surgical patients. SURGERY

**450. Clinical Surgery.** (1.5 per week) Su, F, W, Sp. UC Debas, SFGH Lewis, VA L. Way, DMC Heer, C V. Richards, PMC Russell

Residents, under supervision, are responsible for the preparation of case records, laboratory work, preoperative patient preparation, assistance at operations, postoperative care, and attendance at follow-up clinic. Senior residents have certain additional administrative, teaching, and clinical responsibilities. SURGERY

**452. Experimental Surgery Laboratory.** (1.5 per week) Su, F, W, Sp. Restriction: Surgery 450 and 452 may not be taken concurrently.

#### Debas and Staff

Course includes experimental investigations of general surgical problems and the development of technical and laboratory methods to be applied in general surgery. SURGERY

**453. Clinical Experimental Surgery.** (10) Su, F, W, Sp.

#### Debas

Assistant residents in off-campus hospitals approved by the chairperson of the department and the dean.

Course includes clinical and experimental investigations of general surgical problems and the development of technical and laboratory methods to be applied in surgery. SURGERY

**490. Clinical Surgery-SFGH.** (1.5 per week) Su, F, W, Sp.

#### Lewis

Interns rotate through the general surgical service, including the intensive care unit. Under the direction of the attending staff, experience is provided in vascular, chest, hand and plastic surgery, and surgery of maxillofacial injuries. SURGERY

**495. Clinical Surgery.** (1.5 per week) Su, F, W, Sp.

#### Debas

Interns, under supervision, are responsible for the preparation of case records, laboratory work, preoperative patient preparation, assistance at operations, postoperative care, and attendance at follow-up clinic. SURGERY

## Teaching Methodology

**170. Educational Technology.** (1) F, W, Sp. Prerequisite: D.D.S. degree. Seminar 2 hours.

#### Staff

Course provides resource information in the form of a systematic overview of educational technology. This information is introduced in conjunction with the development by the individual student of an actual microcourse, teaching a single skill. GEN DENT

**176. Practice Teaching.** (1) F, W, Sp. Prerequisite: D.D.S. degree. Clinic 3 hours.

#### Staff

Practical teaching experience in selected courses under the supervision of members of the staff. GEN DENT

**186.01A-B-C. Practice Teaching.** (0-3) F, W, Sp. Lab 3 hours.

#### Staff

Practical teaching experience in selected courses under the supervision of senior members of the staff. GEN DENT

## Toxicology

**200A. Introduction to Biochemical Toxicology.** (4) § Sp. Prerequisite: Pharmaceutical Chemistry 203 or co-requisite. Lecture 4 hours.

#### Mehan

The metabolism and bioactivation of drugs, carcinogens, and other toxicants will be presented, and these examples will serve to illustrate how toxic substances alter and disrupt normal cellular processes at the molecular level. PHARM

## Urology

**Core Clerkship-Surgery 110** includes clinical clerkships in the outpatient clinics and hospitals, assistance at operations, and participation in residents' seminars.

**140.01. Advanced Urology Clerkship-UC.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

#### Tanagho

Students work as interns on the Urology Service at UC. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

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

#### Tanagho

Clinical clerkship in off-campus hospitals approved by the chairperson of the department and the dean. UROLOGY

**140.03. Advanced Urology Clerkship-VA.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

#### R. D. Williams

Students work as interns on the Urology Service at VA. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

**140.04. Advanced Urology Clerkship-SFGH.** (1.5 per week) Su, F, W, Sp. Prerequisite: Surgery 110.

#### McAninch

Students work as interns on the Urology Service at SFGH. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

**150.01. Research in Urology.** (1.5 per week) Su, F, W, Sp. Prerequisite: Must be third- or fourth-year medical student. Must have approval of chair, dean, and involved research faculty.

#### Carroll

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

**170.01. Fundamentals of Urology.** (2) F, W, Sp. Prerequisite: Consent of instructor.

#### Tanagho and Staff

Seminar and library research. UROLOGY

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

#### Tanagho and Staff

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

**400. Urology Seminar.** (1.5) Su, F, W, Sp.

#### Tanagho

Seminar includes study of the basic sciences and urologic roentgenology with members of the attending staff. UROLOGY

**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

**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