

GENERAL CATALOG

UNIVERSITY OF CALIFORNIA SAN FRANCISCO, 1979-80

July 1979

1979-80 Calendar

First Summer Session 1979

Registration June 22, Friday
Instruction Begins June 25, Monday
¹Independence Day July 4, Wednesday
Instruction Ends August 4, Saturday
Session Ends August 5, Sunday

Second Summer Session 1979

Registration August 3, Friday
Instruction Begins August 6, Monday
¹Labor Day September 3, Monday
Instruction Ends September 15, Saturday
Session Ends September 26, Wednesday

Summer Term 1979

Registration June 22, Friday
Instruction begins June 25, Monday
¹Independence Day July 4, Wednesday
¹Labor Day September 3, Monday
Instruction ends September 15, Saturday
Summer term ends September 26, Wednesday

Fall Quarter 1979

Registration (new & readmitted) September 27, Thursday
Registration (continuing in person) September 28, Friday
Fall quarter begins September 27, Thursday
Instruction begins October 2, Tuesday
¹Thanksgiving holiday November 22, Thursday—
November 23, Friday
Class instruction ends December 15, Saturday
Final examinations December 17, Monday—
December 22, Saturday

Courses

This chapter is a compendium of the courses of instruction offered by the University of California San Francisco.* Courses are arranged in numerical order under alphabetically listed subject headings. As these headings do not in every case correspond to a department, the responsible department or other instructional unit is indicated at the end of the course description for each course. Abbreviations used for these departments or instructional units are spelled out in the list below.

Inquiries about individual courses should be addressed to the indicated department or instructional unit for information that is not included here or in the separately published bulletins of the four Schools or of the Graduate Division. These bulletins, available from the respective Schools or the Graduate Division, indicate, for example, the place of various courses in the different established curricula. Faculty rosters may also be found in the bulletins of the four Schools.

Course Description — Course information is arranged in two paragraphs with periods separating items. The first paragraph includes course number, title, units in parentheses, session offered, prerequisite, format and breakdown of hours, and instructor in charge. The second paragraph describes the course content, followed by department or other instructional unit.

Course Numbers — All courses are numbered according to the following system: 100 series=upper division professional course, 200 and 300 series=graduate academic course, and 400 series=postdoctoral professional course. The meanings of the second (tens) and first (units) digits vary

among the schools. A detailed explanation of course 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:

AMB CM MED	Division of Ambulatory and Community Medicine, School of Medicine
ANATOMY	Department of Anatomy, School of Medicine
ANESTHESIA	Department of Anesthesia, School of Medicine
BIOCHEM	Department of Biochemistry and Biophysics, School of Medicine
BIOL DYS FUNCT	Department of Nursing in Biological Dysfunction, School of Nursing
CL PHARM	Division of Clinical Pharmacy, School of Pharmacy
DERMATOL	Department of Dermatology, School of Medicine
EPID INTL HLTH	Department of Epidemiology and International Health, School of Medicine
FAM HLTH	Department of Family Health Care Nursing, School of Nursing
GEN DENT	Division of General Dentistry, School of Dentistry
GR DEVEL	Department of Growth and Development, School of Dentistry
HIST HL SC	Department of History of Health Sciences, School of Medicine

LAB MED	Department of Laboratory Medicine, School of Medicine
MED ILLUS	Graduate Program in Medical and Biological Illustration, School of Medicine
MED INF SC	Section of Medical Information Science, School of Medicine
MEDICINE	Department of Medicine, School of Medicine
MENT HLTH COM	Department of Mental Health and Community 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 MED	Department of Oral Medicine and Hospital Dentistry, 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
PERIODONT	Department of Periodontology, School of Dentistry
PHARM CHEM	Department of Pharmaceutical Chemistry, School of Pharmacy

*Additional courses are offered by the Schools under their programs of Continuing Education (page 16).

PHARMACOL	Department of Pharmacology, School of Pharmacy	KH	Kaiser Foundation Hospital, Honolulu, Hawaii	T	Tripler Army Medical Center, Honolulu, Hawaii
PHARMACY	Department of Pharmacy, School of Pharmacy	KP	Kaiser Permanente Medical Center, Oakland	UC	University of California Hospitals and Clinics, San Francisco (includes UC, Moffitt, and Ambulatory Care Center)
PHYS THER	Curriculum in Physical Therapy, School of Medicine	KSSF	Kaiser Foundation Hospital, South San Francisco	VA	Veterans Administration Medical Center, San Francisco
PHYSIOLOGY	Department of Physiology, School of Medicine	L	Letterman Army Medical Center, San Francisco	VAF	Veterans Administration Medical Center, Fresno
PSYCHIATRY	Department of Psychiatry, School of Medicine	LPI	Langley Porter Institute, San Francisco	VAM	Veterans Administration Medical Center, Martinez
RADIOLOGY	Department of Radiology, School of Medicine	MC	Maricopa County Hospital, Phoenix, Arizona	VAP	Veterans Administration Medical Center, Phoenix, Arizona
RESTOR DENT	Department of Restorative Dentistry, School of Dentistry	MG	Marin General Hospital, Ross	VAPA	Veterans Administration Medical Center, Palo Alto
SOC BEH SC	Department of Social and Behavioral Sciences, School of Nursing	MM	Mills Memorial Hospital, San Mateo	VMC	Valley Medical Center of Fresno, Fresno
SURGERY	Department of Surgery, School of Medicine	MZ	Mt. Zion Hospital and Medical Center, San Francisco	VPC	Valley Park Convalescent Hospital, Mill Valley
UROLOGY	Department of Urology, School of Medicine	NAT	Natividad Medical Center, Salinas		
		NRMC	Naval Regional Medical Center, Oakland		
		OC	O'Connor Hospital, San Jose		
		P	Peralta Hospital, Oakland		
		PH	Peninsula Hospital and Medical Center, Burlingame		
		PHS	United States Public Health Service Hospital, San Francisco		
		PMC	Pacific Medical Center, San Francisco		
		Q	Queen's Medical Center, Honolulu, Hawaii		
		RDMC	Ralph K. Davies Medical Center, San Francisco		
		RLA	Rancho Los Amigos Hospital, Downey		
		S	Stanford Medical Center, Palo Alto		
		SCC	Santa Clara Valley Medical Center, San Jose		
		SFCH	San Francisco Community Health Service, San Francisco		
		SFGH	San Francisco General Hospital Medical Center, San Francisco		
		SGH	Scenic General Hospital, Modesto		
		SH	Shriners Hospital for Crippled Children, Honolulu, Hawaii		
		SJ	San Joaquin General Hospital, Stockton		
		SM	Samuel Merritt Hospital, Oakland		
		SRM	Santa Rosa Memorial Hospital, Santa Rosa		
		SSF	Shriners Hospital for Crippled Children, San Francisco		
		STA	St. Agnes' Hospital and Medical Center, Fresno		
		STJ	St. Joseph's Hospital, San Francisco		
		STL	St. Luke's Hospital, San Francisco		
		STM	St. Mary's Hospital and Medical Center, San Francisco		

Hospitals:

A	Alta Bates Hospital, Berkeley
C	Children's Hospital and Adult Medical Center, San Francisco
CC	Crippled Children's Hospital, Phoenix, Arizona
CCP	Center for Training in Community Psychiatry, Berkeley
CHMC	Children's Hospital Medical Center of Northern California, Oakland
CHS	Community Hospital of Sonoma County, Santa Rosa
CM	Cowell Memorial Hospital, Berkeley
FR	French Hospital, San Francisco
GS	Good Samaritan Hospital, San Jose
H	Highland General Hospital, Oakland
IMBB	Irwin Memorial Blood Bank, San Francisco
K	Kaiser Foundation Hospital, San Francisco

Ambulatory and Community Medicine

110. Required Clinical Clerkship in Ambulatory and Community Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Completion of 24 weeks of clinical clerkship, including Pediatrics 110 and either Medicine 110 or Surgery 110 and 111. **Crede**

Integrated ambulatory clerkship experience of wide scope offered in a diversity of patient settings, including Adult Comprehensive, Family Care, Pediatric, and Dermatology Clinics, Home Care Service, Community Health programs, with additional assignments and seminars in radiology, psychiatry, and emergency care. AMB CM MED

140.02. Clinical and Community Health Programs. (1½ per week) Su, F, W, Sp. Prerequisite: Determined by students' clinical experiences and elective for which they are applying. **Crede and Staff**

Elective experience for two or more weeks in various community health projects. Students may participate in unique health care programs such as Indian Health Services, Diabetic Summer Camp, Planned Parenthood, SFGH Holistic Health, and Asian Health Services. AMB CM MED

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

Hine, H. Lewis

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

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

H. Davis

Students work with a family practitioner, general internist, or 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 setting. Rural preceptorships will be encouraged. AMB CM MED

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

J. Barbaccia

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

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

Staff

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

140.07. Family Medicine Clerkship in Healdsburg. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

H. Davis, Grace, Neal, Wellock

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

140.08. Family Practice Clerkship at CHS. (1½ per week) Su, F, W, Sp. Prerequisite: Third or fourth year standing. Medicine 110 and Pediatrics 110. Obstetrics and Gynecology 110 and Surgery 110 recommended.

R. Barnett, Rodnick

Involvement in comprehensive primary medical care of families (outpatient); participation in team approach to medical care, involving family physicians and allied health personnel, and experience in utilizing appropriate community health resources in solution of medical and family problems. AMB CM MED

140.09. Clerkship in Rehabilitation Medicine — The Team Approach. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Pediatrics 110.

Crede

Students function as members of a treatment team caring for patients severely disabled by acute spinal cord injuries, acute head injuries, and neurologic and orthopedic disabilities at the Santa Clara Valley Medical Center Acute Rehabilitation Unit. Stipends are available. AMB CM MED

140.20. Family Practice Clerkship at VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth year standing. Consent of instructor for third-year students.

Dayton

Involvement in comprehensive primary medical care (inpatient and outpatient); participation in team approach to medical care; experience in utilizing appropriate community health resources in solution of medical and family problems. AMB CM MED

140.21. Emergency Medicine Clerkship at VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110, Obstetrics and Gynecology 110, Pediatrics 110, and Surgery 110.

R. Daily, Werdegarr

A clerkship offering training in various aspects of emergency medicine. Primary responsibility for patients is included. The elective is divided into the following rotations: ambulatory patients, including minor lacerations, acutely ill patients, and experience with paramedic ambulance systems. AMB CM MED

140.22. Problem-Oriented Clinical Clerkship at STA. (1½ per week) Su, F, W, Sp. Prerequisite: Ambulatory and Community Medicine 110 or Medicine 110.

Joseph, Corbus, Werdegarr

Practical experience in supervised patient work-up, using problem-oriented medical records for case review, patient management, and audit of student's progress. Introduction to private, community hospital care setting. AMB CM MED

140.23. Rehabilitation Medicine Clerkship at Fresno Community Hospital. (1½ per week) Su, F, W, Sp. Prerequisite: Ambulatory and Community Medicine 110 or Medicine 110.

Kirby, Werdegarr

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

140.24. Primary Care Clerkship in a Semirural Community Hospital at Visalia. (1½ per week) Su, F, W, Sp.

Sharrer, Corbus, Werdegarr

Supervised work-up of ambulatory patients with emphasis on interdisciplinary patient management in a private practice setting; close association with the medical community and introduction to a semirural locale. AMB CM MED

140.25. Clinical Clerkship in Primary Care at a Fresno Community Hospital. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Pediatrics 110. **D. Knapp, Werdegarr**

Clerkship based at the largest community hospital in Fresno utilizes inpatient office and community settings for clinical experience in primary care. Content of general medicine, family care, psychiatry, and obstetrics and gynecology is designed to meet students' particular interests. AMB CM MED

140.26. Clerkship in Primary Care and Community Health at the Fresno County Health Department. (1½ per week) Su, F, W, Sp. Prerequisite: Basic clinical rotations.

Defoe, Corbus, Werdegarr

An elective course within the Fresno County Health Department which includes responsibility in patient care and a community health project, involving health education, clinical algorithms, new record pursuit, and epidemiological study. AMB CM MED

140.27. Community Medicine Clerkship in the San Joaquin Valley. (1½ per week) Su, F, W, Sp. Prerequisite: Ambulatory and Community Medicine 110, or Medicine 110, or Pediatrics 110. Clinic 40 hours.

Werdegarr, Corbus

Field work experience in primary care and community medicine in various health care settings in the San Joaquin Valley. Emphasis is on rural health care problems. Program is designed in conjunction with the student. AMB CM MED

140.30. Family Practice Clerkship at NAT. (1½ per week) Su, F, W, Sp. Prerequisite: Third or fourth year standing, Medicine 110, and Pediatrics 110. Obstetrics and Gynecology 110 and Surgery 110 recommended. Clinic 40 hours. **Patinkin**

Course offers experience in family practice and provides opportunity to participate in health care delivery in rural and/or underserved areas; strengthens background in internal medicine, pediatrics, obstetrics and gynecology, and the behavioral sciences in an academic environment. AMB CM MED

140.40. Family Practice Advanced Inpatient Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and consent of instructor. **R. Goldschmidt**

Responsibility for hospitalized adult patients with diverse medical problems. Students function as members of the inpatient team at a junior intern level, and are supervised by the instructor, who is the full-time attending and Director of Family Practice Inpatient Service. AMB CM MED

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

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

160.01. Clinical Aspects of Community Medicine. (1-5) F, W, Sp. Prerequisite: Consent of instructor. Seminar and field work 2-8 hours. **Barbaccia**

Assignments to community health agencies where students have patient contact and choose an aspect of the agency's program for analysis. Seminars are used to clarify issues in community health. Faculty

from Schools of Medicine, Pharmacy, Nursing, and Dentistry participate where needed. AMB CM MED

160.02. Clinical Occupational Medicine. (1-5) F, W, Sp. Prerequisite: Consent of instructor. **Hine**

Clinical demonstrations and case presentations representative of occupational and environmental disease. AMB CM MED

160.03. Family Practice in the Community. (1½) Su, F, W, Sp. Prerequisite: Consent of instructor. Field work 4 hours. **H. Davis**

Assignment with a family physician for four hours a week. Students select a family physician, primary care internist, or pediatrician, observing their practice and participating in patient care. The degree of participation is dependent upon student's level of clinical training. AMB CM MED

160.05. Centro Latino Elective. (1-2) Su, F, W, Sp. Prerequisite: Consent of instructor. Field work 3-6 hours. **Sanchez, Pascoe**

Students participate in a program serving the needs of the Latino population at all age levels, from prekindergarten to elderly. Health care, free breakfast, and lunch programs are conducted at the Centro Latino, 180 Fair Oaks Street. AMB CM MED

160.06. Latino School Elective. (3) Su, F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Lab 6 hours. **Sanchez, Pascoe**

This project is a continuous outreach program dealing primarily with Spanish-speaking children, parents, teachers, and administrators in Mission District schools. Students participate in teaching, dissemination, and delivery of health care. AMB CM MED

160.07A-B. The Family: Health, Illness, and Care. (2-2) F, W. Two-quarter course.

Ransom, W. Gerber, Schroder, H. Davis

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. AMB CM MED

160.08. Introduction to Family Therapy. (1) § F, W. Seminar 1 hour. **Ransom, Schroder**

This course provides an introduction for students expecting to take more advanced training in family therapy. Students will not see families themselves, but will participate in videotaped role-playing exercises aimed at practicing basic techniques. AMB CM MED

170.01. Aspects of Social Medicine in Community Health Agencies. (1-5) W. Prerequisite: Consent of instructor. Seminar and field work 2-8 hours. **Staff**

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

170.02. Environmental Medicine. (1-5) Su, F, W. Prerequisite: Consent of instructor. Seminar 1-5 hours. **Hine**

Tutorial concerned with environmental medical problems. AMB CM MED

170.04. Occupational Medicine in the Community. (1½-3) § Su, F, W, Sp. Prerequisite: Consent of instructor. Field work 4-8 hours.

H. Lewis, B. Dickerson

Medical and nursing students visit industries, governmental agencies, union groups, and medical clinics to observe work practices, environmental exposures, delivery of medical care, and interactions of regulatory control agencies with industry and labor. AMB CM MED

170.05. Rehabilitation Medicine. (1-5) F, W, Sp. Prerequisite: Consent of instructor. Seminar and field work 2-8 hours. **Crain**

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

170.07. Introduction to Occupational Medicine. (1) § F. Lecture 1 hour.

Hine, H. Lewis

Practices of occupational medicine as related to the prevention, recognition, and treatment of disease and injuries resulting from employment. Interactions of economic, political, and social forces bearing on worker health problems. Effects of the enterprise on the community and consumer. AMB CM MED

171. Computers and Problem Solving with Applications to Health Care. (3) § W. **Bolour**

The nature of information processing. Concepts of problem solving with the digital computer. Representation of information within a computer system. Introduction to programming and systematic programming methodology. Examples of present and potential applications of computer systems to the medical environment. AMB CM MED

172. Legal Medicine. (2) § F, Sp. Lecture 2 hours. **Tennenhouse**

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

173. Clerkship Seminar in Family Medicine. (1) F, W, Sp. Seminar 1 hour. **J. Cook**

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

175.01. Axioms of Western Healership (Physicianship). (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours. **Guttentag**

An exploration of the theoretical premises of Western physicianship; its relationship to other disciplines and other cultural attitudes; trendiness of the holistic approach; dynamics of patient-physician relationship; and operational concepts such as optimal versus inadequate or superfluous examination. AMB CM MED

175.02. Theoretical Problems of Clinical Medicine. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

Guttentag

Seminar on selected writings and of topics discussed in Ambulatory and Community Medicine 175.01. AMB CM MED

180. Introduction of Social and Preventive Medicine. (1-2) F. Lecture 2 hours. **Barbaccia**

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

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

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. AMB CM MED

183. Perspectives on Asian-American Community Health Care. (2) § W. Lecture 1 hour. Discussion seminar 1 hour. **Kussman**

Presentation of various perspectives on health and health care in various Asian-American communities, including the socio-economic and cultural factors influencing them. Course includes guest lecturers, films, and discussions. AMB CM MED

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

Investigation of selected theories of migration, urbanization, assimilation, and conflict with emphasis on diverse Spanish-speaking populations in urban areas; relationships between this grouping and formal institutions, such as education, law enforcement, and medical services. AMB CM MED

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

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

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

An introductory series relating health care issues to health policy and ethical analysis, specifically, "Primary Health Care." AMB CM MED

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

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

188.03. Health Policy Seminar. (2) § F, W, or Sp. Seminar 2 hours. **P. Lee and Staff**

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

188.04. Practitioner in Therapeutic Relationships: An Interdisciplinary View. (2) § F. Prerequisite: Medicine 131C. Lecture 2 hours. **P. Lee, Shenkin**

Descriptions of practitioner-patient interactions, followed by past forces of education, social class, personality, and present work organization. Psychological, sociological, economic, political, and health policy viewpoints examined. Discussion of articles and Freidson's "Profession of Medicine." AMB CM MED

188.08. Health and Human Rights. (3) § Sp. Lecture 3 hours. **Jonsen, M. Parker**

Concepts of patients' rights (right to care, right of informed consent, right to treatment) are analyzed in legal and ethical cases. Objective is to increase awareness of claims to certain "rights" which impose duties on providers of health care. AMB CM MED

189. Bioethics Workshop. (1) § F. Lecture 1 hour. **Jonsen, P. Lee**

Lecture and workshop discussion of several health care situations in light of their ethical and public policy dimensions: confidentiality, genetic screening and counseling, therapeutic experimentation in hopeless cases, and testing of pharmaceutical products are discussed. AMB CM MED

189.01. Workshop in Ethics and Medical Care. (1) § W. Lecture 1 hour. **Jonsen, P. Lee.**

Lecture and workshop discussion of several medical care situations in light of their ethical and policy dimensions: care of endangered and defective newborns, experimentation using normal children, public funding of sterilization programs, and chronic disease and quality of life. AMB CM MED

189.02. Workshop in Ethics and Biomedical Issues. (1) § Sp. **Jonsen, P. Lee**

Lecture and workshop discussions of ethical and policy dimensions of several current biomedical issues: aging and health care, fetal research, behavior technology, and the role of the pharmaceutical industry in health care. AMB CM MED

190. Family Counseling and Psychotherapy. (1) § F, W. Prerequisite: Consent of instructor. Seminar 1 hour. **Ransom, Schroder**

Students observe family therapy sessions on videotape. Role playing family situations and therapeutic strategies will be emphasized. Appropriate readings are assigned and discussed in seminar. AMB CM MED

198. Supervised Study in Ambulatory and Community Medicine. (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. AMB CM MED

200. Scientific, Ethical, and Legal Design of Clinical Research Involving Human Subjects. (1) § W. Lecture 3 hours on four days during one week. **Jonsen, M. Parker, Sheiner**

Analysis of protocols for clinical research in terms of criteria for scientific validity and legal suitability; description of current local and national review process for approval of funded research. AMB CM MED

201. Ethical Theory. (4) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Independent study 3 hours. **Jonsen, Lebacqz**

Basic concepts and methods of philosophical ethics, with particular emphasis on respect for persons and justice, will be traced in classical and modern authors. Emphasis will be placed on critical analysis of ethical argument. AMB CM MED

211. Theories of Human Nature. (2) § Sp. Prerequisite: Graduate standing. Seminar 2 hours. **Jonsen**

Examination of how several classical and modern authors in the Western philosophical tradition define human nature. Several basic theories and their implications for contemporary science and medicine are developed. AMB CM MED

460. Clinical Primary Care — Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Refer to Medicine 460. Clinic 40 hours.

Crede and Staff

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

461. Clinical Primary Care — Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Refer to Medicine 461. Clinic 40 hours.

Crede and Staff

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

462. Clinical Primary Care — Pediatrics. (1½ per week) Su, F, W, Sp. Prerequisite: Refer to Pediatrics 462. Clinic 40 hours.

Grumbach, Dower

Interns in the Primary Care Track of

Pediatrics are responsible for patient care in a multispecialty primary care clinic. Other rotations include those common to the regular Pediatrics Internship Program and related clinical services, such as Dermatology, Otolaryngology. AMB CM MED

463. Clinical Primary Care — Pediatrics. (1½ per week) Su, F, W, Sp. Prerequisite: Refer to Pediatrics 463. Clinic 40 hours.

Grumbach, Dower

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

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

Guttentag

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

475.02. Theoretical Problems of Clinical Medicine. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

Guttentag

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

Anatomy

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

Riley

The gross structure of the human body is studied by means of dissection, demonstra-

tion, X-ray, surface, developmental, and cross-sectional anatomy with special reference to the functional aspects of the structures examined. ANATOMY

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

Riley

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, and Developmental Anatomy. (6) § SS. Lecture 4 hours. Lab 12 hours.

Asling and Staff

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

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

Asling and Staff

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

102. Histology. (5) § F. Lecture 3 hours. Lab 4 hours.

J. Long

Course covers the microscopic structure of cells, tissues, and organs with the exception of the endocrine and reproductive systems. ANATOMY

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

H. Ralston, Fields, and Staff

The structure and function of the mammalian nervous system studied in lectures, conferences, demonstrations, and labora-

tories, 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

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

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

A study of the macroscopic structure of the human body by means of lectures and dissections. Functional aspects of the structures are stressed. ANATOMY

117A-B. Gross Anatomy.(4-6) § F,W. F: Lecture 2 hours. Lab 6 hours. W: Lecture 3 hours. Lab 9 hours. **Coleman**

Gross anatomy of the trunk, upper extremity, and head and neck is studied by laboratory dissection and demonstration. The course includes an introduction to neuroanatomy. Emphasis is placed on the functions of the structures and systems examined. ANATOMY

118. General Histology. (3) § F. Lecture 2 hours. Lab 3 hours. **McDowell**

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

119. Neuroanatomy. (3) § Sp. Lecture 2 hours. Lab 3 hours. **S. Sutherland**

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

150.01. Gross and Regional Anatomy. (1½ per week) § Su, W, Sp. Prerequisite: Program must be approved by department and adviser during quarter previous to enrollment.

Asling

Individual or group dissection; review of gross anatomy. ANATOMY

156A. Human Anatomy of the Trunk and Upper Extremity. (3) F. Lecture 2 hours. Lab 3 hours. **R. D. Coleman**

The gross structures of the trunk and upper extremity are studied through demonstration dissections. Consideration is given to the functional significance of the structures studied. ORAL MED

156B. Human Anatomy of the Head, Neck, and Central Nervous System. (4) W. Lecture 3 hours. Lab 3 hours. **R. D. Coleman**

The gross structures of the head, neck, and central nervous system are studied through demonstration dissections. Consideration is given to the functional significance and clinical applications of the structures studied. ORAL MED

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

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

170.01. Problem Areas in Clinical Anatomy. (1) Su, F, W, Sp. Prerequisite: Anatomy 100 or concurrent enrollment. First-year standing in School of Medicine. **Lindner**

Discussion of important areas in clinical anatomy such as hernia, thyroid, perineum, and peritoneal cavity. Course is correlated with Anatomy 100. ANATOMY

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

Monie, R. Armstrong, I. Gilbert

This elective course provides information on the more common human congenital defects. Environmental and genetic factors which produce malformations are considered and possible mechanisms discussed. Course is intended primarily for physical therapy students. ANATOMY

170.04. Applied Gross Neuroanatomy. (2) Sp. Prerequisite: Anatomy 103 or concurrent enrollment, or consent of instructor. Lecture 1 hour. Lab 3 hours. **deGroot**

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

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

Living clinical anatomy is stressed; the diaphragm, complete review of the neck, and abdominal contents. Clinical congenital anomalies are discussed in detail regarding their relationship to clinical medicine. ANATOMY

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

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

171. Applied Anatomy. (1½) Sp. Prerequisite: Enrollment in postgraduate specialty program. Lecture ½ hour. Lab 3 hours.

R. D. Coleman

Course covers anatomy as it relates to anesthesia and periodontal surgery. ORAL MED

180. Anatomy of the Lower Extremity. (1-2) Sp. Prerequisite: Anatomy 117A-B. Lab 3-6 hours. **Savostin-Asling**

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

198. Supervised Study in Anatomy. (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 in Anatomy. (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 and Chromosomes. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours. **S. Wolff**

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

202. Seminar Course on Tissue Culture Methods in Biological Research. (1) § W. Prerequisite: Basic knowledge of biological principles and consent of instructor. Lecture 1 hour. **J. Elias, R. Armstrong**

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

203. Techniques in Cell Biology. (2 or 3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Enrollment limited for optional lab 3 hours. Offered in alternate years. Not offered 1979-80. **S. Rosen**

Introduction to the techniques of light microscopic and ultrastructural histochemistry; immunochemistry; chromatography; electrophoresis; subcellular fractionation; radioisotopes; and binding studies. Laboratory sessions will provide practical experience in these areas. ANATOMY

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

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

210. Congenital Abnormalities. (2) § W. Prerequisite: Anatomy 100 or equivalent and consent of instructor. Lecture 2 hours. **Monie, T. Lin, R. Armstrong**

Weekly seminars on experimental teratogenesis as a tool for understanding the formation of congenital abnormalities in man. ANATOMY

215. Cell Structure and Function. (3) § Sp. Prerequisite: An elementary knowledge of cell ultrastructure and biochemistry. Lecture 3 hours. **J. Long, Wissig**

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

216. Developmental Biology. (1-4) § F, W, Sp. Prerequisite: Consent of instructor. Enrollment limited. **L. Glass**

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

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

A critical analysis of selected topics and methods in head and neck anatomy. Topics are correlated with appropriate laboratory experience and are presented by students, staff, and guests. ORAL MED

220. Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. **Staff**
Students, staff, or guests present selected topics concerned with current research in anatomy for criticism and discussion. ANATOMY

225. Experimental Neuroanatomy. (4) § W. Prerequisite: Consent of instructor. Lecture 3 hours, Lab 3 hours. Offered in alternate years. Not offered 1979-80. **H. Ralston**

Examination of the neural organization of the central and peripheral nervous systems, and methods available for experimental analyses of that organization. Topics include neurocytology, axon transport, neural degeneration and plasticity, histochemistry, and immunocytochemistry. Analysis and interpretation of original research literature. ANATOMY

226. Neuroanatomy Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **H. Ralston**

A seminar series dealing with current literature in neuroanatomy and neurophysiology. ANATOMY

231. Molecular and Cellular Analysis of Development. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Not offered 1979-80. **Calarco**

Molecular and cellular events relating to differentiation and development. A variety of developmental phenomena will be surveyed and related to genetic and epigenetic control mechanisms. ANATOMY

235. Developmental Neurobiology. (1-3) § W. Prerequisite: Consent of instructor. Lecture 1-3 hours. Offered in alternate years. Offered 1979-80. **J. LaVail, M. Dennis, M. LaVail**

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 systems. Lectures, student presentations, and discussions of classical and current literature. ANATOMY

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

271. Research in Electron Microscopy. (1) § Sp. **A. Jones**

Course provides practical laboratory training in electron microscopic techniques applicable to basic research and clinical problems. Individual research projects initiated early in student's medical training can be continued through the summer and/or during elective time in the clinical year. ANATOMY

272. Advanced Research in Electron Microscopy. (1) § F, W, Sp. Prerequisite: Anatomy 271. **A. Jones**

Course provides opportunity for independent research using electron microscopic techniques. ANATOMY

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

J. Long, A. Jones

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

275. Clinical Anatomy Through Cross Sections. (2) § Sp. Prerequisite: Anatomy 100. Not open to first-year medical students. Lecture 1 hour. Lab 3 hours. Equivalent to Anatomy 400. **Asling, L. Gass, S. E. 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

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. Clinical Anatomy Through Cross Sections. (2) Su, Sp. Prerequisite: Open to house staff members of UC hospitals. Lecture 1 hour. Lab 3 hours. Equivalent to Anatomy 275. **Asling, L. Glass, S. E. 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. Clinical Clerkship in Anesthesia. (3) Su, F, W, Sp. Prerequisite: Ambulatory and Community Medicine 130, Medicine 130, Medicine 131 A-B-C, Physiology 100, Pharmacology 100 A-B, and Psychiatry 130.

Willenkin

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

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

Willenkin

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

140.02. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Anesthesia 110.

Willenkin

Clinical clerkship in approved hospitals by special arrangement and approval of the chairman of the department. ANESTHESIA

140.03. Intensive Care Clerkship at UC and SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Anesthesia 110 and/or consent of instructor. **UC Don, SFGH Schlobohm**

Course is designed to familiarize the student with techniques of intensive care with emphasis on clinical, renal, respiratory, and circulatory physiology applied to support of patients with cardiopulmonary insufficiency. ANESTHESIA

140.04. Obstetrical Anesthesia. (1½ per week) Su, F, W. Prerequisite: Anesthesia 110, Obstetrics and Gynecology 110, and consent of instructor. **Shnider**

Course covers anesthesia and analgesia for vaginal delivery and cesarean section. Emphasis is placed on effects of anesthetic techniques and drugs on normal physiological changes in labor and delivery, placental transfer of drugs, and resuscitation of the newborn. ANESTHESIA

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

Hamilton and Staff

Course covers the systemic effects of the various muscle relaxants, sedatives, and stimulants and the administration of general anesthetic agents. ANESTHESIA

199. Laboratory Project in Anesthesia. (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 Conferences. (2) F, W, Sp.

W. Stevens, 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. (1½ per week) Su, F, W, Sp. Required during first year of residency, and during either second or third year. **W. Hamilton**

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. Anesthesia Special Assignments. (1½ per week) Su, F, W, Sp. Elective for residents during either second or third year.

UC Eger

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

Animal Science

162. Principles of Laboratory Animal Science. (3) § W. Lecture 1 hour, Lab 6 hours. **Spinelli**

Introduction to the selection, anatomical and physical peculiarities, and preoperative and postoperative care of animals. Laboratory experiments in anesthesia, surgical exercises, drug administration, perfusion techniques, and individual experiments are included. PHARMACY

Anthropology

205A-B. Introduction to Medical Anthropology: 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. **Ablon, Todd**

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

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

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

211 A-B-C. Research Training Seminar. (3-4, 3-4, 3-4) § F, W, Sp. Prerequisite: 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. **Staff**

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

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

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

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 of qualitative data. Course is preparatory for anthropological statistics. EPID INTL HLTH

217. Statistics in Anthropology. (2) § Sp. Prerequisite: Anthropology 216. 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.

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

Staff

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

220. Topics in Medical Anthropology. (0) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.

Staff

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

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

Ruffini

A review of the history and development of anthropology and its major theoretical approaches. Lectures, discussion, and

readings focus on major issues, trends, personalities, and present concerns in the field. EPID INTL HLTH

222A-B-C. Writing Skills for Medical Anthropologists. (1-3,1-3, 1-3) § F, W, Sp. Prerequisite: Open to Medical Anthropology graduate students only. Lecture 1-3 hours. Course may be repeated for credit.

Ruffini

Students submit papers for editorial comment and advice on style, organization, grammar, syntax, and proper scholarly form. Course includes lectures, informal group discussions on problems encountered in writing papers, and some assigned and recommended readings. EPID INTL HLTH

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

M. Clark

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

230. Culture and 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 culture and personality findings in medical and nursing settings. EPID INTL HLTH

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

M. Clark, Hartog, Lauer, Maduro

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

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

Staff

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

234. Culture and 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.

Maduro

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

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

Staff

A review of child development, child rearing and family dynamics in various non-Western cultures and in selected ethnic subcultures of the United States. Cultural contexts of personality formation, deviations in development, and childhood illnesses will be discussed. EPID INTL HLTH

236. Seminar on Women and Sex Roles. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours.

Lewin

An examination of the significance of gender in the social organization and culture of non-Western and contemporary societies, including both cross-cultural study of economic, political, and religious systems, and in-depth discussion of specific ethnographic areas. EPID INTL HLTH

238. Shamanism and Related Phenomena. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours.

Staff

A cross-cultural survey of the practice of shamanism with emphasis on management of disease. Beliefs and practices concerning disease causation, diagnosis, and therapy will be compared with approaches used in other medical systems. Comparison of the shamanistic use of trance. EPID INTL HLTH

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

Ablon

Survey of conceptual approach to family study and modes of family assessment. 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 crisis. EPID INTL HLTH

240. Urban Anthropology. (2-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units.

Ablon

The culture of modern cities. Evaluation of theories and methods for understanding urban behavior. Ethnic, racial, and sub-cultural pluralism in modern cities. The relevance of anthropological concepts for health planning. EPID INTL HLTH

241. Social Deviance. (3) § F, W, or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus field research project.

Ablon

A review of theory and concepts dealing with social and cultural deviance. Focus will be on deviant life styles and subcultural groups in urban areas. EPID INTL HLTH

242. Anthropological Considerations in the Community Mental Health Field. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Ablon, Leighton

A survey of principles and practice in the community mental health field. Emphasis is on the significance of sociocultural factors in the determination of community needs and the delivery of mental health services. EPID INTL HLTH

243. Interfaces between Law and Medicine: An Anthropological Perspective. (2-3) § Sp. Prerequisite: Consent of instructor. Lecture 2-3 hours.

Todd, Ruffini

Cross-cultural survey of problems at law-medicine interface, including medical determinants of legal status; complementary/conflicting approaches to alcoholism, drugs, sexual conduct; therapeutic functions of social control procedures such as witchcraft, gossip; conflicts between religious beliefs and medical/legal practices. EPID INTL HLTH

244. Legal Gerontology. (2-3) § F. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units.

Todd, Ruffini

A cross-cultural examination of the legal problems, needs, and behavior of the elderly, relating data from other societies to problems in the contemporary United States. Concepts, theories, and methods drawn from anthropological, legal, medical, and gerontological literature. EPID INTL HLTH

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

Staff

A comparative examination of traditional and contemporary systems of health care delivery with special attention to theories of disease including notions regarding etiology, prophylaxis, treatment and treatment settings, and the therapeutic encounter. Experience in field and clinical observation included. EPID INTL HLTH

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

Ablon

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

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

Staff

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

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

Staff

Independent study. EPID INTL HLTH

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

Staff

EPID INTL HLTH

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

Todd, C.L. Johnson

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

255A-B-C. Seminar in Medical Anthropology. (2-4, 2-4, 2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 or 6 hours independent study for 3 or 4 units. Intercampus seminar with UC Berkeley. Not offered 1979-80.

M. Clark, F. Dunn

A review of the principal fields of medical anthropology with emphasis on current research and methods. EPID INTL HLTH

260. Epidemiology and Medical Anthropology. (2-4) § W. Prerequisite: Training in epidemiology and consent of instructor. Lecture 2 hours, plus 3 or 6 hours independent study for 3 or 4 units.

F. Dunn

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

263. Biological Perspectives on Growth and Development. (1) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Pawson

Examination of the human growth process with emphasis on cellular growth and differentiation; biochemical basis of the growth process; critical periods of growth — fertilization, implantation, prenatal development, birth, early postnatal development, adolescence, senescence; and developmental adaptation and racial differences in growth. EPID INTL HLTH

267. Nutritional Anthropology. (3) § W. Prerequisite: Consent of instructor. Lecture-Seminar 3 hours.

C. S. Wilson

Survey of past and current research on sociocultural and biocultural aspects of diet and nutrition in developed and developing countries in lecture-seminar format. Methodology for nutritional anthropology field studies will be presented. EPID INTL HLTH

270. Research in Population. (2) § W. Lecture 2 hours.

Ernster

Population research issues and methods, covering sources of demographic data and studies on family planning, evaluation of the impact of birth control programs on population and health, and considerations relevant to the use and acceptability of contraceptive methods. EPID INTL HLTH

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

Staff

Independent study. EPID INTL HLTH

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

Staff

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

Biochemistry

100A-B. Cell Structure and Function. (5-5) § F, W. Prerequisite: Consent of instructor.

Nestle

Lectures and conferences in biochemistry and molecular biology presenting fundamental knowledge and illustrating its applicability to medicine. Primarily for medical students. BIOCHEM

110A-B. Cellular Structure and Function. (3-3) § F, W. Lecture 3 hours.

Fineberg and Staff

Lectures in biochemistry include aspects of cell physiology and cellular ultrastructure, with some 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

111. Special Study for First-Year Students. (2) F. Prerequisite: A general course in biochemistry. Lecture and seminar 2 hours.

Newbrun and Staff

Discussion of biochemical problems of interest in dentistry including enamel, saliva, mineralization, connective tissue, plaque, and oral bacterial metabolism. BIOCHEM

120A-B. Cellular Structure and Function. (4-4) § F, W. Prerequisite: Consent of instructor. Lecture 4 hours.

Rutter

Lectures and conferences in biochemistry include aspects of cell physiology and cellular ultrastructure, with some emphasis in the area of drug metabolism. Fundamental knowledge is presented in the context of its applicability to clinical medicine. Primarily for pharmacy students. BIOCHEM

150.01. Research in Biochemistry. (1½ per week) F, W, Sp. Prerequisite: Consent of instructor.

Staff

Research in biochemistry. BIOCHEM

170.01. Issues in Human Nutrition. (2) W. Prerequisite: Biochemistry 100A-B. Lecture 2 hours. Offered in alternate years. Not offered 1979-80.

Nestle

Course emphasizes the critical examination and analysis of the experimental evidence that relates dietary intake of specific nutrients to specific human diseases. BIOCHEM

198. Supervised Study in Biochemistry. (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. BIOCHEM

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

Staff

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

200A-B-C. General Biochemistry. (3-3-3) § F, W, Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Students with adequate background may enter at any quarter with the consent of instructor.

McCarthy, Boyer (F), Yamamoto, Guthrie (W), Kornberg (Sp.)

A comprehensive, year-long course of lectures, problems, and group discussions concerning general biochemistry. This course is offered biennially, alternating with Biochemistry 200D-E-F. BIOCHEM

200D. General Biochemistry. (1½-3) § W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. **Staff**

A comprehensive course of lectures, problems, and group discussions concerning general biochemistry. This course is offered biennially, alternating with Biochemistry 200A-B-C. BIOCHEM

200E. General Biochemistry. (1½-3) § W. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. **Staff**

A comprehensive course of lectures, problems, and group discussions concerning general biochemistry. This course is offered biennially, alternating with Biochemistry 200A-B-C. BIOCHEM

200F. General Biochemistry. (1½-3) § Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology are recommended. Lecture 1½-3 hours. **Staff**

Together with Biochemistry 200D and 200E, a comprehensive, year-long course concerning general biochemistry. This series is offered biennially, alternating with Biochemistry 200A-B-C. BIOCHEM

200G. General Biochemistry. (1½-3) § Sp. Prerequisite: A year-long course each of organic and physical chemistry, or consent of instructor. Lecture 1½-3 hours. **Staff**

Applications of physical concepts and experimental methods in the study of the structure and function of biopolymers. Course provides a theoretical background along with applications to biological problems for spectroscopy, hydrodynamics, and magnetic resonance. BIOCHEM

201A. Physical Biochemistry I. (3) § Sp. Prerequisite: A year each of organic and physical chemistry or consent of instructor. **Yang**

Application of physical concepts and experimental methods to the study of the structure and function of biopolymers. BIOCHEM

201B. Physical Biochemistry II. (3) § F. **Cooke**

Interaction of electromagnetic radiation with matter. Spectroscopic methods useful in studying biological systems. Theory and applications of nuclear magnetic resonance, electron spin resonance, X-ray diffraction, fluorescence, and quasi-elastic light scattering. BIOCHEM

202. Computation in Biochemistry and Physiology. (3) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours. **Martinez**

The use of general purpose digital computers at the research level. Elements of parameter estimation — linear and non-linear, and of equation solving — algebraic, transcendental, and differential. Elements of mathematical modeling and error analysis. Programming fundamentals in BASIC and APL. BIOCHEM

203. Introduction to Biomathematics. (3) § Sp. Lecture 3 hours. **Landahl, Martinez, Peller**

Mathematical modeling of enzyme kinetics, metabolic and hormonal control

mechanisms, cooperative interactions of macromolecules, diffusion, passive and active transport, membrane models, excitation and conduction, flow, irreversible thermodynamics. Course offers experience in problem formulation and reading of current literature. BIOCHEM

207. Biochemistry of Connective Tissues. (2) § W. Prerequisite: Biochemistry 110A-B or equivalent and consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1979-80. **Newbrun**

Lectures and assigned reading on chemistry, structure, and metabolism of the mucopolysaccharides, collagen, and elastin. Principles of histochemical reactions of connective tissues. BIOCHEM

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

Discussion of selected areas in biochemistry, biophysics, and biomathematics. BIOCHEM

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

Advanced seminar course on mechanisms of passive transport in biological and model membranes, kinetics of passive and active transport, the role of specific proteins and enzymes in these processes, and biochemical pathways involved in the regulation of rates of transport. BIOCHEM

213A-B. Bio-Organic and Enzyme Mechanisms. (2-2) § F, W. Lecture 2 hours. **Santi**

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

215. Preparation for Research in Biochemistry and Biophysics. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lab 9 hours.

C. Guthrie

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

220. Seminar. (0) § F, W, Sp. Lecture 1 hour.

Santi

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

221. Student Seminar. (0-1) § F, W, Sp. Lecture 1 hour.

Spudich

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

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

Staff

297. Special Study. (1-3) § F, W, Sp.

Staff

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

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

Staff

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

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

Staff

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

Biomaterials

110B-C. Biomaterials Science. (1-1) W, Sp. Lecture 1 hour.

Jendresen

Students are introduced to the physics, chemistry, and metallurgy of materials used in dentistry and how use effects physical and chemical properties of materials. The material systems studied are gypsum, cements, resins, waxes, colloids, and metals. RESTOR DENT

120. Biomaterials Science. (1) W. Lecture 1 hour.

Jendresen

Students are presented with the rationale for the use of clinical restorative materials. Each major restorative material system is studied in respect to material manipulation and clinical application. RESTOR DENT

130. Biomaterials Science. (1) Sp. Lecture 1 hour.

Jendresen

Students are taught to analyze accurately clinical and laboratory problems with respect to major material systems. Emphasis is placed on understanding why clinical failures occur with selected materials and what biological responses can be expected. RESTOR DENT

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

Lacy

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

180. Biomaterials Science. (1) Sp. Lecture 1 hour.

Jendresen

A survey of current research in the dental materials field, including evaluations of recently introduced materials and a review of the limitations and indications for all basic materials commonly used. RESTOR DENT

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

Lacy

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

199. Laboratory Project in Biomaterials. (1-5) F, W, Sp. Prerequisite: Third or fourth year standing and approval of the Dean. Lecture 1 hour. Lab 0-12 hours.

Staff

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

Biomathematics¹³

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

Licko

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

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

Glantz

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

¹³See Biochemistry 202 and 203.

190. Biological Modeling Through Differential Equations. (3) § F. Prerequisite: Biomathematics 180 or equivalent. Lecture 2 hours. Lab 3 hours. **Licko**

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

191. Biomedical Applications of Laplace and Fourier Transforms. (3) § Sp. Prerequisite: Biomathematics 189 or equivalent. Lecture 3 hours. **Glantz**

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

193A-B-C. Advanced Calculus and Differential Equations. (3-3-3) § F, W, Sp. Lecture 3 hours. **Landahl and Staff**

Ordinary differential equations. Systems of algebraic and differential equations. Laplace transform, matrix algebra, vectors. Partial differential equations, boundary value problems. Applications to problems of physiology, pharmacology, biochemistry, and biophysics. BIOCHEM

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

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

Biophysics¹⁴

250. Research.¹⁵ (1-8) § F, W, Sp. **Staff**

299. Dissertation.¹⁶ (0) § F, W, Sp. Prerequisite: Advancement to candidacy and permission of the graduate adviser. **Staff**

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

Biostatistics

151. Biostatistics. (2) Sp. Lecture 2 hours.

Citron

Course will cover frequency distributions, graphs, centiles, averages, variability, standard deviation, probability, the binomial distribution, standard scores, the normal curve, sampling, testing hypothesis differences between the means, correlational techniques, and linear regression. PERIODONT

161. Research Design and Evaluation. (2) F. Prerequisite: Biostatistics 151. Lecture 2 hours. **R. Ray**

Chi-square, analysis of variance, significance of correlation coefficients, reliability, validity, stem analysis, and other statistical tests. Introduction to research and research articles, individual research, and a written report. PERIODONT

180.03. Introductory Statistical Treatment of Clinical and Laboratory Problems. (2-3) § F, W, Sp. Lecture 2 hours. Lab optional 0-3 hours. Equivalent to International Health 180.03. **Zippin**

Basic concepts and techniques for the planning and analysis of clinical studies and scientific experiments. Introduction to statistical techniques to summarize qualitative and quantitative data and to draw in-

ferences, taking into account the design and execution of the investigation. EPID INTL HLTH

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

Principles of collection and tabulation of data; measures of morbidity, mortality, and health sciences; standardization techniques; planning of surveys; descriptive and inferential statistics. EPID INTL HLTH

191B-C. Introduction to the Theory of Statistics. (2-2) § W, Sp. Prerequisite: Differential and integral calculus or consent of instructor. **Zippin**

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

197. Introductory Statistics. (3) § F. Lecture 2 hours. Lab 3 hours. **Bostrom**

An introduction to probability and statistical inference including topics such as analysis of variance, simple linear regression, and analysis of discrete data. The laboratory focuses on use of the computer in statistical computations. EPID INTL HLTH

202. Regression, Analysis of Variance, and Design of Experiments. (4) § W. Prerequisite: Biostatistics 197. Lecture 3 hours. Lab 2 hours. **Zippin**

This course considers analysis of variance and covariance, regression, and the statistical design of experiments. EPID INTL HLTH

263A. Practicum in Biostatistical Consultation. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours. **Zippin**

Supervision in statistical consultation. EPID INTL HLTH

263B. Practicum in Biostatistical Consultation. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. **Zippin**

Supervision in statistical consultation. EPID INTL HLTH

¹⁴See Medical Information Science 230A and 230B.

¹⁵See the Biophysics and Medical Physics Group Program in the Graduate Division Bulletin.

¹⁶See the Biophysics and Medical Physics Group Program in the Graduate Division Bulletin.

Chemistry

11. Organic Chemistry. (3) F. Prerequisite: Chemistry 1A-B-C or equivalent. Lecture 3 hours. **Staff**

An introductory study of the structure, stereochemistry, reactivity, and functionality of compounds of carbon. PHARM CHEM

12. Organic Chemistry. (3) W. Prerequisite: Chemistry 11. Lecture 3 hours. **J. Craig**

A continuation of the study of compounds of carbon including some aromatic compounds. PHARM CHEM

16. Organic Chemistry — Laboratory. (2) W. Prerequisite: Chemistry 11. Lecture 1 hour. Lab 3 hours. **Oppenheimer**

Laboratory techniques in organic chemistry. The preparation and study of organic compounds, with an introduction to quantitative organic analysis. PHARM CHEM

113. Organic Chemistry. (3) Sp. Prerequisite: Chemistry 12. Lecture 3 hours. **Castagnoli**

A continuation of the study of compounds of carbon including some aromatic, hydroaromatic, and heterocyclic compounds. PHARM CHEM

115. Physical Chemistry. (5) F. Prerequisite: Chemistry 5 or equivalent laboratory course in quantitative analysis and differential and integral calculus. Lecture 4 hours. Conference and demonstration 3 hours. **Kuntz, Shafer**

Elementary physical chemistry with emphasis on thermodynamics. PHARM CHEM

116. Physical Chemistry. (2) W. Prerequisite: Chemistry 115 or equivalent. Lecture 1½ hours. Conference and demonstration 1½ hours. **Shetlar**

Elementary physical chemistry with emphasis on chemical kinetics. PHARM CHEM

117. Organic Chemistry — Laboratory. (2) F, Sp. Prerequisite: Chemistry 12, 16, and concurrent enrollment in Chemistry 113, or consent of instructor. Conference 1 hour. Lab 4 hours. **Brochmann-Hanssen**

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, Shafer**

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

155. Chemical Toxicology. (2) F. Lecture 1 hour. Lab 3 hours. **K.H. Lee**

The methods of chemical detection and analysis of the common poisons. Usually open to third- and fourth-year students.

158. Physical Chemistry — Laboratory (1) Sp. Prerequisite: Chemistry 115 and 116. **Kuntz, Shafer**

Laboratory exercises in spectroscopy. PHARM CHEM

160. Advanced Physical Chemistry. (3) § W. Prerequisite: Two quarters of physical chemistry or consent of instructor. Lecture 3 hours. **Crippen**

Chemical thermodynamics. PHARM CHEM

161. Advanced Physical Chemistry. (3) § Sp. Prerequisite: Chemistry 116 or equivalent. Lecture 3 hours. **Goux**

Theory and applications of chemical kinetics. PHARM CHEM

162. 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

165. Organic Chemistry — Analytical Methods. (4) § F. Prerequisite: Chemistry 113. Lecture, 1 hour. Lab 9 hours. **Weinkam**

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. **Staff**

Group studies of selected topics in chemistry. PHARM CHEM

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

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

202. Advanced Organic Chemistry. (3) § Sp. Prerequisite: Chemistry 113, 116, 157, and 165 or equivalent. Lecture 4 hours. **Oppenheimer**

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

203. Advanced Organic Chemistry. (3) § W. Prerequisite: Chemistry 113, 115, and 165 recommended. Lecture 4 hours. **Ortiz de Montellano**

Physical organic chemistry; the structure of molecules and its relationship to mechanisms of reaction. PHARM CHEM

204. Organic Chemistry: Reactions and Synthetic Methods. (2) § F. Prerequisite: Chemistry 113 and 157, or equivalent. Chemistry 165 recommended. Lab 6 hours. **J. Craig**

A course in advanced laboratory work exemplifying the major reactions and newer synthetic methods used in organic chemistry. PHARM CHEM

205. Recent Advances in Synthetic Methods. (2) § F. Prerequisite: Chemistry 113 and 157, or equivalent. Chemistry 165 recommended. Lecture 2 hours. **J. Craig**

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

208. Advanced Organic Chemistry. (3) § Sp. Prerequisite: Chemistry 113 and 157, or equivalent. Chemistry 165 recommended. Lecture 3 hours. **J. Craig, M. Wolff**

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

209. Chemistry of Heterocyclics. (3) § Sp. Prerequisite: Chemistry 113 and 157, or equivalent. Lecture 3 hours.

J. Craig, Kenyon

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

Clinical Dentistry

409. Clinical Dentistry. (0-10) F, W, Sp. Clinic 0-30 hours. **Staff**

Responsibility for patient dental care in the wards and comprehensive clinic under the direction of the attending staff. Dental consultations and treatment are coordinated with medical care. Residents take histories and perform physical examinations, laboratory tests, and dental treatment. ORAL MED

Clinical Laboratory Science

201 A-B-C. Clinical Chemistry. (2-2-2) § F, W, Sp. Prerequisite: Degree in Chemistry or Medical Technology license. Lecture 2 hours. **Nussenbaum**

Principles and evaluation of chemical laboratory methods used to diagnose abnormalities in metabolism and organ function. LAB MED

207. Enzymology. (2) § F, W, Sp. Prerequisite: Consent of instructor. **Farina**

The fundamental concepts of enzyme kinetics are reviewed; enzyme measurement and automation; enzyme profiles in various diseases and specific enzyme methodology are presented. LAB MED

209. Quality Control. (2) § F, W. Prerequisite: Enrollment in Clinical Laboratory Science master's program. **Barr**

A review of principles of statistics and their application to quality control in the clinical laboratory; legal aspects of quality control, preventive maintenance. LAB MED

210A-B. Clinical Pathology Seminars. (1-1) § F, W. Prerequisite: Consent of instructor. Seminar 1 hour. **Staff**

Specialists on various established and proposed laboratory tests will present interpretation and evaluation of tests as related to pathophysiology. LAB MED

211. Computer Applications in the Clinical Laboratory. (2) § W or Sp. Prerequisite: Enrollment in Clinical Laboratory Science master's program. Lecture 2 hours. **Barr**

Applications of computer science in collecting, storing, analyzing, and reporting data in a clinical laboratory. Statistical quality control methods will be discussed. Practical computer programming instruction and experience, using FORTRAN, will be stressed. LAB MED

215. Clinical Toxicology. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **P. Reynolds, McKnie**

Course introduces students to the implications as well as the systematic schemes and specific techniques of volatiles, acidic, neutral, and basic drugs, metals, and miscellaneous drugs and toxic agents encountered in clinical and forensic laboratories. LAB MED

216. Clinical Toxicology Laboratory. (2) § Sp. Prerequisite: Consent of instructor. **Staff**

Course is given as a three-week traineeship program in one of the most active toxicology laboratories in the Bay Area. LAB MED

230A-B. Clinical Microbiology. (2-2) § A: Su, F, W, Sp. B: Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Two-quarter course. **Hadley**

Principles of clinical laboratory methods for diagnosis of infectious disease will be reviewed. Newer detection methods such as immunofluorescence, radioimmunoassay, gas chromatography will be examined. *In vitro* methods of susceptibility testing and assay of antimicrobials will be discussed and critically evaluated. LAB MED

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

254. Clinical Immunology. (2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Hadley**

Principles of antigen-antibody reactions and the evaluation of their utility in the diagnosis of disease. The role of cellular and humoral immunity in host defenses against infections. LAB MED

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

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

Clinical Pharmacy

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

deLeon, Herfindal, Beste

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

130. Clinical Pharmacy. (5) F. Prerequisite: successful completion of all required first- and second-year courses or consent of instructor. Lecture 4 hours. Conference 2 hours.

Winter, Kimble, Benet

Orientation to selected areas of medical practice, the clinical evaluation and comparison of drugs used in these areas, and the biopharmaceutics of drug combinations and products. CL PHARM

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

L. Davis

Continuation of Clinical Pharmacy 130. CL PHARM

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

Barriere and Staff

Continuation of Clinical Pharmacy 131. CL PHARM

135. Preclerkship Orientation and Drug Information Analysis Service (DIAS) Rotation. (3) F, W, Sp. Prerequisite: Third-year standing.

Shimomura, Cupit, McSweeney

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

148A. Inpatient Clinical Clerkship. (9) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132, and 135, and Pharmacology 136. Passing grade in the Clinical Pharmacy 130 series comprehensive examination. Clinic 40 hours per week for six weeks.

Gambertoglio 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

148.01A. Inpatient Clinical Clerkship at San Diego. (9) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132, and 135, and Pharmacology 136. Passing grade in the Clinical Pharmacy 130 series comprehensive examination. Clinic 40 hours per week for six weeks.

Adler and Staff

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

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

Gambertoglio and Staff

Continuation of Clinical Pharmacy 148A. CL PHARM

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

Adler and Staff

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

149A. Ambulatory Externship Clerkship. (6½) SS, F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132, and 135, and Pharmacology 136. Passing grade in the Clinical Pharmacy 130 series comprehensive examination.

Clossom 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

149.01A. Ambulatory Externship Clerkship at San Diego. (6½) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132, and 135, and Pharmacology 136. Passing grade in the Clinical Pharmacy 130 series comprehensive examination.

Adler 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

149B. Ambulatory Externship Clerkship. (6½) SS, F, W, Sp. Prerequisite: Clinical Pharmacy 149A.

Clossom and Staff

Continuation of Clinical Pharmacy 149A. CL PHARM

149.01A. Ambulatory Externship Clerkship at San Diego. (6½) F, W, Sp. Prerequisite: Clinical Pharmacy 149.01A or 149A.

Adler and Staff

Continuation of Clinical Pharmacy 149.01A or 149A. CL PHARM

152. Problems in Drug-Induced Diseases. (3) F, W, Sp. Prerequisite: Pathology 135 and third-year standing or higher. Lecture 2 hours. Conference and special project 4 hours.

Tong

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

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

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

154. Seminar in Intraprofessional Communications. (2) F. Prerequisite: Third- or fourth-year standing and consent of instructor. Seminar 1 hour. Discussion leader 2 hours. Field trips. **deLeon, Beste**

Students serve as preceptors for Clinical Pharmacy 110 to gain experience in leading group conferences, discussing the role of the pharmacist, and identifying and implementing concepts related to patient-oriented pharmacy. Course may be repeated for credit once. CL PHARM

156.01. Clinical Pharmacy Clerkship in Inpatient Pediatrics at UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor **R. Levin**

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

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

Gambertoglio

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

156.03. Clinical Pharmacy Clerkship in Infectious Disease at UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. **Barriere**

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

156.20. Clinical Pharmacy Clerkship in Pediatrics at K. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. **M. Kimble, Pigeon**

Students participate in the activities of the Inpatient Pediatrics Service. Activities include routine review of patient charts, providing therapeutic consultations where appropriate, monitoring patient response to drug therapy, attendance at conferences, seminars, and rounds. Special projects will be assigned. CL PHARM

156.21. Pediatric Specialty Clerkship at 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

156.22. Clinical Pharmacy Clerkship in Pediatrics Specialty Clinics at UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A, 148B or 149A, 149B. Consent of instructor. **Staff**

Students work under supervision of a clinical pharmacist and physicians in preparation of a therapeutic management plan for selected patients. They participate in conferences and seminars, and perform selected therapeutic consultations for the clinical staff. CL PHARM

156.25. Clinical Pharmacy Clerkship in Inpatient Medical Services at VA. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A, or 149A and 149B. Consent of instructor.

M. Kimble, Nagata and Staff

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

156.28. Clinical Pharmacy Clerkship in Medicine at MM. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. **M. Kimble, Chann**

Experience in various medical services at a private community hospital. Students interview patients, monitor drug therapy, consult with house staff and nursing service, and prepare drug information reports appropriate to patient care. CL PHARM

156.30. Clerkship in Clinical Pharmacology at SFGH. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. **Tong**

Students, in an interdisciplinary setting, assess clinical problems relating to the selection, pharmacodynamics, and thera-

peutic 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

156.31. Clinical Pharmacy Clerkship in Clinical Pharmacology at S. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

M. Kimble, Mangini

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 will be assigned. CL PHARM

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

Dong

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

156.41. Clinical Pharmacy Clerkship in Dermatology Clinic at UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132, and Pharmacy 155. Consent of instructor.

H. Spencer

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

156.42. Clinical Pharmacy Clerkship in Obstetrics and Gynecology at UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

M. Kimble, Ruggiero

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

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

M. Kimble

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

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

M. Kimble and Staff

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

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

Kayser

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

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

Ignoffo

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

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

M. Kimble and Staff

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

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

M. Kimble, Lofholm

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

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

M. Kimble, Kamil, Olayos

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

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

M. Kimble, Whooley, A. Rogers

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

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

M. Kimble, T. Wong, S.I. Cohen, S. Kaufmann

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

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

M. Kimble, Inaba

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

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

M. Kimble, C. Jackson

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

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

M. Kimble, Kotabe, Rupp

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

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

Shimomura, L. Davis

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

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

M. Kimble, Fleckenstein

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

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

M. Kimble, Scarpace, Kahl

Practical experience in a community hospital pharmacy unit dose system. Conferences will be held on topics related to the principles and theory of the unit dose

system, drug therapy problems encountered in monitoring, and interprofessional relationships. CL PHARM

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

M. Kimble, Hirschman

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

165. Hospital Pharmacy. (1-5) F, W, Sp. Conference and special projects.

Beste, Owyang, Herfindal

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

196.04. Clinical Pharmacokinetics at 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

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

Tong

Students attend rounds with the Infectious Disease Service; evaluate antibiotics selection, and patients' responses to therapy; serve as drug consultants to staff on the service. Special project relating to an aspect of infectious disease and its therapy will be required. CL PHARM

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

M. Kimble, Gee, Woo

Students attend rounds, provide medication consultations, monitor drug therapy, work with health care professionals regarding antibiotic uses and misuses, interview patients, and provide pharmacokinetic monitoring. CL PHARM

196.23. Inpatient Medicine Clerkship at Santa Rosa Community Hospital. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

Kishi, G. Dennis

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

196.24. Inpatient Medicine Clerkship at Napa State Hospital. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor. **M. Kimble, Banducci**

Students attend rounds, make recommendations to physicians, take medical histories, and follow patient progress, and participate in interdisciplinary team meetings, for primarily acutely psychotic patients. CL PHARM

196.25. Clinical Pharmacy Clerkship in Inpatient Medical Services at VA. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor.

M. Kimble, Nagata and Staff

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

196.29. Inpatient Medical-Surgical Clerkship at Davis Community Hospital. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B.

M. Kimble, Rolston, Fernandes

Students will experience clinical pharmacy and applied therapeutics in a small rural community hospital. Emphasis will be placed on medical management of frequently encountered disease states, rational drug selection and dosing, recognition of clinically significant toxic and/or therapeutic drug effects. CL PHARM

196.33. Family Practice Inpatient and Outpatient Services at SFGH. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B, and/or consent of instructor.

Dong

Participation in activities of the Family Practice Inpatient Service. Activities will continue in the Family Practice Outpatient Service if applicable. Students present conferences to medical staff and are responsible for a minimum of five written drug consultations per clerkship. CL PHARM

196.34. Psychopharmacology Clerkship at Atascadero State Hospital. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor.

M. Kimble, Hudgins, Raleigh, R. O'Brien

Students will participate in the clinical activities of the Pharmacy Department at Atascadero State Hospital. A special project

will be required, the subject of which shall be chosen by the student, with the advice and consent of a preceptor. CL PHARM

196.42. Clinical Pharmacy Clerkship in Medicine at GS. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor. **M. Kimble, Rainey**

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

196.59. Developmental Clinical Pharmacy Clerkship in Various Medical Specialty Clinics at UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. **Staff**

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

196.65. Monteagle Pharmacy/St. Luke's Hospital. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor.

M. Kimble, Scheidtmann, J. May, Letcher

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

196.66. Rockridge Medical Care Center Pharmacy. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, 132, and/or consent of instructor.

M. Kimble, Warren, Stalker

Practical experience in the administrative, dispensing, and consulting roles of a pharmacist in a prepaid health care facility. Activities include utilization review, patient education, interaction with various health professionals, and participation in committee work. CL PHARM

196.68. Senior Citizens Pharmacy Education Program. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor. **M. Kimble, L. Eng, K. Eng**

Students will offer clinical pharmacy services such as hypertension screening, patient health education, and establishment and review of patient profile systems to senior citizens in five community senior health and drug information centers located in local community pharmacies. CL PHARM

196.69. Skilled Nursing Facility Clerkship at Pharmicare Services. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. **M. Kimble, J. Kaufman, Caron**

Students participate in the activities of a skilled nursing facility pharmacy practice. Included are clinical and dispensing activities in the twelve facilities in the Sacramento area, as well as the legal responsibilities of the pharmacist as consultant in skilled nursing facilities. CL PHARM

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

McCart

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

196.81. I.V. Fluid Therapy at Mary's Help Hospital. (1-8) Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor. **M. Kimble, Kotabe, Rupp**

Participation in weekly 3-hour conference and 6 to 10 hours monitoring patients with fluid problems. Students are responsible for preparation and leading of conferences on rotational basis. A special project of student's interest is required with the consent of the preceptor. CL PHARM

196.82. I.V. Additives at VA. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131, and 132. Consent of instructor.

M. Kimble, Kikugawa

Introduction to the administrative, professional, and technical aspects of establishing and maintaining an I.V. additive service. Students will participate in workshops and conferences. CL PHARM

196.83. I.V. Additives and Unit Dose at VAM. (1-8) F, W, Sp. Prerequisite: Registered intern with California State Board of Pharmacy and consent of instructor.

M. Kimble, Gee, Woo

Students actively participate in reviewing patients' drug profiles, preparing parenteral solutions using aseptic techniques, unit dose packages, providing education to other hospital personnel, and dispensing unit dose drugs. CL PHARM

196.84. UTI and Drug Utilization Review at VAM. (1-8) F, W, Sp. Prerequisite: Second-year standing and/or consent of instructor.

M. Kimble, Gee, Woo

Students review patients' charts, collect data in management of UTI's and antibiotic utilization in an interdisciplinary approach to health care in a hospital environment. CL PHARM

196.90. Extended Care Facilities in Marin County. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

M. Kimble, R. Robertson

Students interview patients, monitor drug therapy, provide nursing in-service education, provide drug information consultations to physicians, and conduct drug utilization and adverse drug reaction studies. Documentation of activities and findings to be presented in a written report. CL PHARM

198. Supervised Study in Clinical Pharmacy. (1-5) F, W, Sp.

Staff

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

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

Herfindal, Beste, and Staff

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

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

Herfindal, McCart, Kayser

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

452. Hospital Pharmacy Administrative Work. (5) Su, F, W, Sp. Prerequisite: Resident standing and approval of program director.

Herfindal, Beste, and Staff

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

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

Herfindal, Beste, and Staff

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

469. Seminar in Hospital Pharmacy. (0) F, W, Sp. Prerequisite: Admission to the resident program in Hospital Pharmacy.
Beste, Herfindal, and Staff

Community Dentistry

109.01. Community Health Problems and Practice. (0-1) W, Sp. Clinic-Seminar rotation 30 hours.
J. Fine

Students work in community clinics which serve low economic areas. Both seminars and supervised clinical experience will be designed to provide students with the opportunity to understand the economic, social, and cultural problems of the people they will be serving.
GEN DENT

168. Community Health Methods. (2) F. Lecture 1 hour. Lab 3 hours.
Silverstein

Dental Hygiene students work in the North Oakland community with the Children and Youth Project staff. They are assigned to area schools where oral screening is done. Home visits will also be made.
GEN DENT

Dental Auxiliary Utilization

109.01. Clinical Utilization of Dental Auxiliaries. (0-1½) F, W, Sp. Prerequisite: Dental Auxiliary Utilization 120. Concurrent enrollment in General Dentistry 109.01. Clinic rotation 60 hours.
Ino

Clinical training in four-handed, sit-down dentistry using full-time chairside dental assistants. Course is conducted in three-week blocks of eight students at SFGH in conjunction with the general dentistry rotation, General Dentistry 109.01.
GEN DENT

120. Introduction to Use of Dental Auxiliaries. (½) Sp. Prerequisite: Preventive Dentistry and Community Health 111. Lecture 1 hour for one-half of quarter.
Ino

Classroom instruction and demonstrations in the effective use of the dental assistant.
GEN DENT

180. Managerial Aspects of Employing Auxiliary Personnel. (1) Sp. Prerequisite: Dental Auxiliary Utilization 120. Lecture 1 hour.
Ino

An elective course primarily designed to examine the theories and practice of personnel management as related to a small, single proprietorship business such as a dental practice.
GEN DENT

Dental Health Education

150. Introduction to Dental Health Education. (2) W. Lecture 2 hours.
Talbot

An introduction to theories of learning and educational methodology as applied to clinical practice of dental hygiene. Development and implementation of individualized preventive programs for dental patients are emphasized.
PERIODONT

160A. Classroom Dental Health Education I. (2) F. Prerequisite: Dental Health Education 150. Lecture 2 hours.
P. Walsh

Course covers fundamentals of classroom education techniques, including objective writing, lesson planning, and test construction.
PERIODONT

160B. Classroom Dental Health Education II. (1) W. Prerequisite: Dental Health Education 150 and 160A. Lecture 9 hours. Lab 12 hours.
P. Walsh

Field work experience utilizing techniques learned in Dental Health Education 160A.
PERIODONT

160C. Community Dental Health Education. (2) Sp. Prerequisite: Dental Health Education 150, 160A, and 160B. Lecture 2 hours.
P. Walsh

Course covers community dental health roles for dental hygienists, including program planning and financing.
PERIODONT

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

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

199. Laboratory Project in Dental Health Education. (1-5) F, W, Sp. Prerequisite: Dental Health Education 150, 160A, and 160B. Lecture 1 hour. Lab 0-12 hours.
Francisco

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

Dental Hygiene

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

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

150A-B-C. Introduction to Dental Hygiene. (2-2-1) F, W, Sp. Lecture 2 hours F, W; 1 hour Sp.
Halterman and Staff

The role of the dental hygienist in preventive dentistry is studied with emphasis on the objectives and principles of oral prophylaxis. Introduction to the anatomy and physiology of the oral cavity and to dental disease.
PERIODONT

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

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

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

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

152C. Research Design. (2) Sp. Lecture 2 hours. **J. Boyce**

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

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

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

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

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

159.01. Clinical Dental Hygiene Seminar. (½) Sp. Seminar 1 hour given in alternate weeks. **Francisco**

Clinical seminar to discuss patient management and clinical procedures. PERIODONT

160A-C. Office Management and Ethics. (2-2) F, Sp. Lecture 2 hours. **Talbot**

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

161B-C. Orientation to Dentistry. (0-2) W, Sp. Prerequisite: Dental Hygiene 151. Lecture 2 hours. **Francisco**

Continuation of Dental Hygiene 151. Course includes head and neck cancer management, tooth transplantation and implantation, orthodontics, oral surgery, craniofacial anomalies, maxillofacial rehabilitation, and removable and fixed prosthodontics. PERIODONT

169A-B-C. Advanced Clinical Dental Hygiene. (4-4-4) F, W, Sp. Prerequisite: Dental Hygiene 155A-B and 159. Concurrent enrollment in Dental Hygiene 169.01A-B-C. Clinic 12 hours. **Francisco**

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

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

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

188A-B-C. Advanced Clinical Functions. (2-2-2) F, W, Sp. Lecture variable 1-2 hours. Lab 2 hours. **Gould**

Course will encompass current regulations on the utilization of dental auxiliaries as defined by the California State Board of Dental Examiners for the Registered Dental Assistant and the Registered Dental Hygienist. PERIODONT

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

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

189.01. Clinical Experience in Mobile Dental Clinics. (0-3) SS. Clinic variable. **R. Miller**

Clinical experience in mobile dental clinics. PERIODONT

189.02. Community Health Clinical Practice. (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. **Francisco**

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. PERIODONT

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

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

Dental Jurisprudence

180. Dental Jurisprudence. (½) W. Lecture 1 hour, for five sessions. **F. Bradley**

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

Dental Technics

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

First-year students are oriented to the necessity for accuracy in manipulation of materials. Impression taking, pouring of casts, waxing technique, investing, casting, and soldering are covered. Manipulation of restorative materials will be demonstrated and used in the laboratory. RESTOR DENT

185. Introduction to Basic Dental Technics. (2) SS. Lab 18 hours, for three weeks.

Brigante

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

Dermatology

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

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

140.01. Clinical and Research Dermatology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

Cram

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. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

W. L. Epstein

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

150.01. Research in Dermatology. (½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

W. L. Epstein

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

160.01. Clinical and Research Dermatology. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor.

W. L. Epstein

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

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

W. L. Epstein

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

400. Dermatology Staff Conferences. (2) F, W, Sp.

W. L. Epstein 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.

R. Goodman

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

402. Seminar in 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 Seminars. (2) F, W, Sp. Seminar 2 hours.

W. L. Epstein 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. Seminar in Clinical Dermatology. (1) F, W, Sp. Seminar 1 hour.

W. L. Epstein and Staff

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

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

Fukuyama

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. Basic Science Seminars. (1) Su, F, W, Sp. Seminar 1 hour.

W. L. Epstein 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. Medical 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 Dermatology. (10) Su, F, W, Sp.
K McGinley, PHS Fasal, Hoke, UC Conant,
SFGH Gellin, VA Tuffanelli

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 Dermatology. (1½ per week)
Su, F, W, Sp. J. H. Epstein

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. Clinical and Experimental Dermatology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor.

W. L. Epstein

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

Economics

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

Winters

Lectures and group discussions related to dental practice. Subject areas covered include equipment selection, auxiliary per-

sonnel, consultation and financial procedures, recall, and accounting systems. Prepaid dental care programs and the role of professional organizations are presented by guest lecturers. GEN DENT

Endocrinology

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

Lostroh, Papkoff

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

191. Topics in Endocrinology. (1) § Sp. Prerequisite: Endocrinology 190 or consent of instructor. Lecture 1 hour. Offered in alternate years.

Papkoff, Lostroh

Selected topics of current interest. ANATOMY

192. Structure and Function of the Hormones. (2) § W. Prerequisite: Course in basic biochemistry recommended.

Papkoff, Ramachandran

Course will examine the chemical nature of the endocrines; the methods employed for purification, characterization, structural determination, and synthesis. The relationship of molecular structure to biological activity will be studied, as well as comparative and evolutionary aspects. ANATOMY

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

Ganong and Staff

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

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

Ganong and Staff

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

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

Goldfine, J. A. Williams

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

220. Seminar in Experimental Endocrinology. (1) § F, W, Sp. Seminar 2 hours, given in alternate weeks.

Papkoff, Ramachandran

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

222. Reproductive Endocrinology Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

Kuhn

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

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

R. Weiner

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

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

Endodontics

109. Clinical Endodontics. (0-2) F, W, Sp. Prerequisite: Operative Dentistry 115A-B-C and 125A-B-C. Clinic variable.

Nguyen and Staff

Clinical endodontics. Minimum of 100 points or two units required for graduation. RESTOR DENT

125. Sophomore Preclinical Endodontics Laboratory. (1½) Sp. Lecture 1 hour for five weeks. Lab 30 hours for five weeks. **Nguyen**

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

130. Clinical Endodontics. (1) F. Prerequisite: Endodontics 125. Lecture 1 hour.

Nguyen

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

181. Advanced Endodontic Concepts. (1) W. Lecture 1 hour.

R. J. Rosenberg

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

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

Nguyen and Staff

Clinical experience at the level of Endodontics 109. RESTOR DENT

189.02. Advanced Clinical Endodontics. (0-4) Sp. Clinic variable.

Sapone

Advanced instruction in the field of clinical endodontics. RESTOR DENT

189.03. Expanded Clinical Endodontics. (0-9)

F, W, Sp. Prerequisite: Completion of endodontics graduation requirements and satisfactory progress toward graduation in all other divisions. Consent of instructor and approval of Clinic Review Committee. Clinic variable. Enrollment limited.

Nguyen and Staff

Objectives of the course are to offer more extensive endodontic service, rather than extraction, to clinic patients; and to expand clinical experience in diagnosis and treatment for students showing interest in endodontics. RESTOR DENT

189.04. Undergraduate Clerkship in Endodontics. (0-16½) F, W, Sp. Prerequisite:

Fourth-year standing and completion of majority of graduation requirements. Lecture 5½ hours for five weeks. Clinic.

Nguyen, Sapone, and Staff

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

Epidemiology and International Health

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

Heyneman

An introduction to protozoa and helminths and human diseases they produce, with emphasis on host-parasite interac-

tions. Parasite epidemiology and life cycles, clinical and diagnostic aspects are considered in lectures, films and kodachrome showings. Laboratory demonstrations displayed throughout week. EPID INTL HLTH

101. Fundamentals of Epidemiology. (3) Sp. Lecture 2 hours. Seminar 1 hour.

Petrakis, Ernster

Basic epidemiological principles and methods for investigating the distribution and determinants of disease in the population. Emphasis is on research design, evaluation of medical literature and diagnostic tests, and assessment of patient risk factors for use in diagnosis and treatment. EPID INTL HLTH

140.02. Clinical Clerkships Abroad. (1½ per week) Su, F, W, Sp. Prerequisite: Nine months of clinical work and Epidemiology and International Health 150.01.

R. Goldsmith

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

140.03. Leprosy and Other Communicable Diseases. (1½ per week) § Su, F, W, Sp. Prerequisite: Medicine 110.

Gelber

As part of the consultative team, students work-up and follow communicable disease problems on the medical and surgical services. Participation on the inpatient and outpatient leprosy service and attendance regularly at PHS conferences. EPID INTL HLTH

140.04. Nutrition Clerkship. (1½ per week) Sp.

C. S. Wilson and Staff

Four-week block elective with 3 hour lecture-discussions on nutritional requirements and deficiencies; clinical experience

in various Bay Area clinics. Emphasis on training to do useful work in dietary and clinical evaluation, and treatment in absence of trained nutritionist. EPID INTL HLTH

150.01. Medicine in Developing Countries. (1 1/2 per week) W. Prerequisite: Epidemiology and International Health 100 or consent of instructor. **R. Goldsmith**

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

150.02. Field and Laboratory Research Abroad. (1 1/2 per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **Dunn and staff**

Research under faculty supervision, generally under sponsorship of UC International Center for Medical Research in Malaysia, or occasionally in other developing countries. Special research opportunities in Mexico. Research may be in public health, clinical or preventive medicine, basic medical sciences. EPID INTL HLTH

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

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

170.04. Host-Parasite Interactions and Pathology. (1) W. Prerequisite: Epidemiology and International Health 100 or equivalent. Lecture and Discussion 1 hour. **Heyneman**

Lectures and discussions to review the patterns of host-parasite interactions involving protozoan and helminth infective agents of man. Topics selected will explore current views of immune and other types of response and their disorders that may result in human disease. EPID INTL HLTH

170.05. Introduction to International Health. (2) § W. Lecture 2 hours. **Dunn and Staff**

Lecture and discussions introducing the field of international health from an ecological and behavioral perspective. The course surveys world health and demographic problems, issues in the delivery of medical care and career opportunities in international health. EPID INTL HLTH

170.06. Geography of Human Health and Disease. (3-5) F. Prerequisite: Preregistration required. Course is offered and meets jointly with Geography 188 given at UC Berkeley. Lecture 3 hours. Optional term paper for 5 units. **Dunn and Staff**

Course covers principles of medical geography and landscape epidemiology including changing patterns of human health and disease in the context of physical, biotic, and sociocultural environments, and in relation to human settlements. Analysis of selected specific diseases of global importance. EPID INTL HLTH

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

A laboratory research problem on leprosy under the guidance of a member of the staff of the Leprosy Research Unit at PHS. The Unit's major research areas are the pharmacology, immunology, and chemotherapy of leprosy in animals and man. EPID INTL HLTH

180. World Population Pressures and Family Planning Perspectives. (1-2) § W. Lecture 1 hour, plus project required for 2 units. **Ernster**

Implications of population growth and family planning programs in developing industrialized countries. Contraceptive and abortion methods and their socio-cultural acceptability are emphasized as well as demographic methods, population research issues, and the role of health professionals in population control. EPID INTL HLTH

180.01. Tropical Medicine Clinics. (1-2) § Su, F, W, Sp. Prerequisite: Epidemiology and International Health 100 and six months of clinical experience. Clinic 3-6 hours. **R. Goldsmith, Frierson and Staff**

Examination and treatment of patients in the Tropical Medicine Clinics under staff supervision. Students also assist with consultations on hospitalized patients. Most of the patients seen in these clinics at UC and SFGH have diseases associated with infection by parasites. EPID INTL HLTH

180.03. Introductory Statistical Treatment of Clinical and Laboratory Problems. (2-3) § F, W, Sp. Lecture 2 hours, Lab optional 0-3 hours. Equivalent to Biostatistics 180.03. **Zipin**

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

180.04. Clinical Epidemiology. (2) § W. Prerequisite: Consent of instructor. Seminar 2 hours. **Hulley**

Course objective is the examination of selected controversies in the prevention and treatment of chronic disease from an epidemiological perspective. Primary readings on topics such as the diet-heart hypothesis and why women outlive men are discussed. EPID INTL HLTH

181. Essentials of Nutrition. (1) § F. Lecture 1 hour. **C. S. Wilson**

An elementary course in basic concepts of human nutrition. Topics include nutrient requirements, dietary deficiency symptoms, and nutritional problems and food needs of vulnerable groups, with emphasis on the developing world. EPID INTL HLTH

182. Concepts in Human Nutrition. (1) § Sp. Lecture 1 hour. **C. S. Wilson**

Current concepts in metabolic bases of nutritional requirements, dietary recommendations, evaluation of food intakes and dietary habits, and assessment of nutritional status. Emphasis on nutritional needs during pregnancy, lactation, growth, maturation, and disease, in developing countries and the United States. EPID INTL HLTH

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

Lectures, case histories, and films emphasizing diagnosis and treatment of tropical diseases including malaria, amebiasis, cholera, typhoid, schistosomiasis, leprosy and arbovirus infections, plus a review of opportunities for clinical clerkships abroad in developing countries. EPID INTL HLTH

190. Introduction to Epidemiology. (3) § F. Prerequisite: Third- or fourth-year standing in School of Medicine, or graduate standing. Consent of instructor. Lecture 3 hours. Enrollment limited. **Holly**

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

198. Supervised Study in Epidemiology and International Health. (1-5) §F, W, Sp. Prerequisite: Consent of instructor. **Staff**

Library research and directed reading under supervision of a member of the faculty. EPID INTL HLTH

199. Laboratory Project in Epidemiology and International Health. (1-5) § F, W, Sp. Prerequisite: Consent of instructor. **Staff**

A laboratory research project under direction of a member of the faculty. EPID INTL HLTH

Exfoliative Cytology

401A-B-C-D. Exfoliative Cytology. (14-14-14-14) Su, F, W, Sp. **E. King**

Lectures in cytology include normal, malignant, and abnormal nonmalignant cells. Instruction covers method of specimen collection; preparation, staining, and microscopic examination of specimens; development of speed and accuracy in microscopic examination; and correlation of cellular and tissue pathology. PATHOLOGY

Fixed Prosthodontics

109. Clinical Fixed Prosthodontics. (0-8) F, W, Sp. Prerequisite: Third-year standing in fixed prosthodontics. Clinic variable. **Staffanou**

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

110. Principles of Fixed Prosthodontics. (1) Sp. Prerequisite: Concurrent enrollment in Fixed Prosthodontics 115. Lecture 1 hour. **Radke**

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

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

Course covers the basic techniques of fixed prosthodontics. RESTOR DENT

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

Fixed Prosthodontics 120A, in conjunction with Fixed Prosthodontics 125A, continues instruction in fundamentals of bridge construction. Fixed Prosthodontics 120B, in conjunction with Fixed Prosthodontics 125B, presents instruction in ceramo-metal restoration and its use as an individual restoration or in bridgework. RESTOR DENT

125A-B. Fixed Prosthodontics Technics. (2-2) F, W. Prerequisite: Fixed Prosthodontics 110 and 115, Biomaterials 110B-C, and Dental Technics 115A-C. Lab 6 hours. **Radke (F), Lacy (W)**

Fixed Prosthodontics 125A, the laboratory corollary to Fixed Prosthodontics 120A, continues instruction of basic bridge construction. Fixed Prosthodontics 125B, the laboratory corollary to Fixed Prosthodontics 120B, presents instruction in ceramo-metal restoration as an individual entity, and also within bridge construction. RESTOR DENT

130A-B-C. Fixed Prosthodontics Theory. (1-1-1) SS, F, W. Lecture 1 hour F, W; 2 hours SS. **Meli (SS), Tueller (F), Staffanou (W)** RESTOR DENT

139. Clinical Fixed Prosthodontics. (0 SS, 0-1 F, 0-1 W, 0-3 Sp). SS, F, W, Sp. Prerequisite: Third-year standing and completion of all first- and second-year courses in fixed prosthodontics, morphology, and occlusion. Clinic variable. **Staffanou and Staff**

Students will accrue points by performing clinical crown and bridge procedures.

The required number of points for passing the course is 150. Points are allocated according to the difficulty and magnitude of the procedure, and also the quality of treatment. RESTOR DENT

149. Clinical Fixed Prosthodontics. (0-1-2-2) SS, F, W, Sp. Prerequisite: Fixed Prosthodontics 139. Clinic variable.

Staffanou and staff

Students will accrue points by performing clinical fixed prosthodontics procedures. The required number of points for completion of the course is 250. Points are allocated according to the difficulty and magnitude of the procedure, and also the quality of treatment. RESTOR DENT

170. Seminar in Fixed Prosthodontics. (2) F, W, Sp. Prerequisite: Students in Fixed Prosthodontics Certificate Program must register for this course each quarter and summer session.

Lorencki

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

171.01A-B-C. Clinical Procedures in Fixed Prosthodontics. (3-3-3) F, W, Sp. Prerequisite: Admission to postdoctoral standing and consent of instructor. Lecture 1 hour. Clinic 6 hours.

W. H. Noble

Instruction and practice in the diagnosis, treatment planning, and treatment of clinical patients. RESTOR DENT

171.02. Clinical Procedures in Fixed Prosthodontics. (2) SS. Prerequisite: Fixed Prosthodontics 171.01A-B-C. Clinic 6 hours.

W. H. Noble

Clinical procedures in fixed prosthodontics. Course provides a continuation of clinical experience received in Fixed Prosthodontics 171.01 A-B-C. RESTOR DENT

172.01A-B-C. Advanced Clinical Procedures in Fixed Prosthodontics. (3-3-3) F, W, Sp. Prerequisite: Completion of first-year and summer session of Fixed Prosthodontics Certificate Program. Lecture 1 hour. Clinic 6 hours.

Eissman

Advanced instruction and practice in the diagnosis, treatment planning, and treatment in fixed prosthodontics. RESTOR DENT

172.02. Advanced Clinical Procedure in Fixed Prosthodontics. (2) SS. Clinic 6 hours.

Eissman

Clinical procedures in fixed prosthodontics. Course provides a continuation of experience received in Fixed Prosthodontics 172.01A-B-C. RESTOR DENT

176A-B-C. Special Study for Postdoctoral Students. (1-5, 1-5, 1-5) F, W, Sp. Research 3-15 hours.

Lorencki

Original investigation in the field of fixed prosthodontics. RESTOR DENT

180. Oral Rehabilitation. (1) W. Seminar 1 hour.

Lorencki

The field of fixed prosthodontics and its relationship to other dental disciplines will be explored by means of case presentations to provide students with a broad base of experience in oral rehabilitation techniques. RESTOR DENT

180.01. Special Study Seminar. (1) Sp. Seminar 1 hour. Enrollment limited.

Lum

Individual staff members will offer seminar type instruction on selected topics related to fixed prosthodontics. RESTOR DENT

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

Meli

Advanced clinical restorative elective. Lectures describe the restorative general practice. Topics include those such as office layout, laboratory relations, treatment

limitations, scheduling, financial arrangements, and treatment failures. RESTOR DENT

189.01. Fixed Prosthodontics Clinical Practice. (0-25) F, W, Sp. Prerequisite: Fixed Prosthodontics 149. Approval of the chairperson of the division. Clinic variable.

Staffanou, Radke

Clinical experience at the level of Fixed Prosthodontics 149. RESTOR DENT

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

Radke, Staffanou

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

Forensic Pathology and Medicine

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

Smuckler

Course covers basic legal principles; torts and contracts; medical records and documents; medical licensure and certification; forensic pathology; the expert witness; malpractice and professional liability. PATHOLOGY

General Dentistry

109. General Dentistry. (0-8) F, W, Sp. Prerequisite: Third-year standing. Clinic variable.

G. Hall

An elective course in which students perform patient treatment in a variety of clinical settings. GEN DENT

109.01. Clinical Rotation at SFGH. (0-4) F, W, Sp. Prerequisite: Fourth-year standing. Clinic and seminar.

Darke, Khosla

Provision of comprehensive and emergency dental care for the community served by SFGH clinics. Concepts of clinical dental auxiliary utilization will be used while rendering treatment. GEN DENT

111. Changing Aspects of Dental Practice.
(1) F. Lecture 1 hour. **Wycoff**

Survey course designed to introduce the student to current social and professional problems in dentistry. Topics include identifying patient, community, national, and professional needs, and how they are met. GEN DENT

116A-B-C. Introduction to Clinical Dentistry.
(0-4, 0-4, 1½) F, W, Sp. Lecture 1 hour F, W. Clinic 3 hours F, W; 4½ hours Sp. **Braly**

Introduction to the clinical procedures and techniques used in the diagnosis, management, and control of oral disease. GEN DENT

120. Behavioral Sciences. (1) W. Lecture 1 hour. **Eckhaus**

Introduction to the basic concepts, theories, and findings of the social sciences. Emphasis is on the application of these concepts and modes of reasoning to pressing social problems and the delivery of health services. GEN DENT

121. Research Design. (1) Sp. Lecture 1 hour. **Wycoff**

Basic principles of biostatistics. Introduction to the concept of experimental reliability, fundamental principles of sampling techniques, selection of data, and variability. The student will plan, develop, and write a research protocol. GEN DENT

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

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

189.01. Advanced Clinical Clerkship in General Dentistry at VA. (0-24) F, W, Sp. Prerequisite: Fourth-year standing and approval of Clinic Review Committee. **G. Hall, Weir**

Students provide comprehensive dental care to patients assigned to them under supervision of staff in the medical and hospital environment. Attendance at seminars and conferences included. GEN DENT

Health Sciences Education

200. Introduction to Health Sciences Training. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **K. Jacoby**

Course focuses on instructional techniques and strategies useful for the beginning instructor. Emphasis is on the development of an effective personal teaching style. Open to advanced graduates, residents, teaching assistants, and new faculty. MEDICINE

220A-B. Health Sciences Education Seminar. (2-2) § F, W. Prerequisite: Consent of instructor. Seminar 2 hours. **Rosinski**

Consideration of principles of learning, including individual student differences, techniques of instruction, and approaches to evaluation of student progress. Individual teaching plans are developed and critiqued. Emphasis is placed on the graduate and professional school student as a learner. MEDICINE

221. Allied Health Sciences Seminar. (2) § F, W, Sp. Seminar 2 hours. **Rosinski**

Graduate seminar integrating clinical experiences and academic course work of students enrolled in Kellogg Education Project. Relationships of course work experiences to future roles as allied health teachers are considered. Individual professional problems are analyzed. MEDICINE

300. Evaluation of Clinical Performance. (2) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. **Rosinski**

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

History

180. History of Dentistry. (1) W. Lecture 1 hour. **B. Hartman**

Projections, based on a background of the growth and development of the profession, develop "curves of probability" of future technical and biological developments. Growing social impacts upon the present and future practice of dentistry are stressed. GEN DENT

History of Health Sciences

150. History of Pharmacy. (3) F. Lecture 3 hours. **T. Schwarz**

Emphasis is on the historical development of pharmacy, its relationship to the other health professions, and the personalities who significantly contributed to the advancement of health care. HIST HL SC

170.02. Medical History and Bibliography. (1-5) § F, W, or Sp. Lecture 1 hour. **J. Saunders**

Lectures and informal seminars on aspects of medical history. HIST HL SC

170.03. Evolution of American Medicine. (1-5) § F, W, Sp. **Brieger**

Lectures and informal seminars on the growth of American medicine from Colonial times to the present, with an examination of the sociopolitical and socioeconomic factors influencing that growth. HIST HL SC

170.06. Introduction to the History of Medicine. (1-5) § F, W, Sp. Lecture 1 hour. Independent study variable. **Brieger and Staff**

An introductory course intended for all students in the health professions and graduate students interested in the broad conceptual developments influencing the growth of medical sciences and the health professions from the classical to the modern period. HIST HL SC

170.07A-B. History and Philosophy of the Health Professions. (1-2, 1-2) SS. Lecture 1 hour. Paper required for 2 units.

Brieger and Staff

Survey of the history and development of the various health professions and services, with consideration of the economic and ethical factors involved. HIST HL SC

171. Psychobiography and Pathography. (2-5) F, W, Sp. Equivalent to Psychiatry 444.

Brieger, 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. HIST HL SC

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

Brieger and Staff

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

200. History of Historical Method and Methodology of Medical History. (2-4) § F, W, Sp. Lecture 2-4 hours.

Staff

Special reading and discussion on historiography and historical method with biweekly seminars designed to teach students to do independent medicohistorical research and writing. HIST HL SC

203. The Brain and Mind in Medical History. (1-2) § F, W, or Sp. Lecture 1-2 hours.

F. Schiller

Introduction to the history of neurological concepts. HIST HL SC

204. History of Non-Western Medical Systems. (1-2) § W. Prerequisite: History of Health Sciences 170.06 or 201. Lecture 1 hour.

Veith

Seminars and directed readings on the philosophy of Asian, Indian, and other Non-Western systems. HIST HL SC

205.01. The Western Medical Attitude—Philosophical Foundations of Clinical Thought. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours.

Guttentag

Seminar exploring the theoretical premises of Western medicine; its relationship to other disciplines and other cultural attitudes; the trendiness of the holistic approach; the dynamics of patient-physician relationship; the operational concepts, such as optimal versus inadequate or superfluous examination. HIST HL SC

205.02. The Western Medical Attitude—Philosophical Foundations of Western Clinical Thought. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours.

Guttentag

Extended reading and conferences of History of Health Sciences 205.01. HIST HL SC

206. Introduction to History of Health Sciences—Nursing. (2) § Sp. Lecture 2 hours.

Blanc

For nursing instructors and graduate students. History of the health sciences upon which nursing practice is based. Methods and examples for teaching history in the clinical setting. HIST HL SC

207. Introduction to the History and Bibliography of the Literature of the Health Sciences. (1-2) § F, Sp.

Zinn

Historical survey of health sciences literature, illustrated by works from the special collections in the library. Includes an introduction to historical and modern reference works and bibliographic methods useful in research in the history of the health sciences. HIST HL SC

209. Medicine in the Victorian Age. (2) § Sp. Prerequisite: Graduate standing. Lecture 2 hours.

Blanc

Investigation of medical facilities in London during 1830-1870 along with modes of practice, social setting, and levels of scientific knowledge in the mid-nineteenth century. HIST HL SC

210. The History of Medical Education. (1-3) § W, Sp. Lecture 1-2 hours, plus paper or research for 3 units.

Brieger

Lectures, discussions, and readings on the development of medical theory and practice as taught from ancient times to the present. Emphasis will be on American medical education in the nineteenth and twentieth centuries. HIST HL SC

211. Theories of Human Nature. (3) § Sp. Prerequisite: Graduate standing. Lecture 3 hours.

Jonsen

Course examines how several classical and modern authors in the Western philosophical tradition define human nature. Various basic theories and their implications for contemporary science and medicine are developed. HIST HL SC

220. Seminar. (1-3) § F, W, Sp. Seminar 1-3 hours.

Staff

Students, staff, or guest lecturers present selected topics concerned with current research. HIST HL SC

250. Research. (1-8) § F, W, Sp. HIST HL SC

Staff

297. Special Study. (1-3) § F, W, Sp.

Staff

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

Hospital Dentistry

170. Emergency Medical Care Seminar. (1) W. Prerequisite: Postdoctoral or fourth-year standing. Seminar 2 hours. **R. Lim**

The course is designed to stimulate group discussion on the principles of emergency medical care. Topics include transportation, disaster planning, triage, cardiopulmonary resuscitation, management of shock, head and neck injuries, as well as special problems related to dentistry. ORAL MED

171. Physical Diagnosis. (2) Su. Prerequisite: Enrollment in a postgraduate specialty program or consent of instructor. Lecture 2 hours. **J. Klein**

Designed to prepare the oral surgeon to conduct a physical examination as a preliminary evaluation before performing oral surgical procedures. Techniques of examination are demonstrated and practiced in the classroom; examination of pathologic conditions is conducted at bedside. ORAL MED

172. Oral Biology Conferences. (1) W. Prerequisite: Postdoctoral standing.

Silverman, Ware, and Staff

Conferences include case presentations by interns and residents, and seminars covering selected subjects in oral biology relevant to clinical and preventive dentistry. ORAL MED

Human Biology

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

Stoeckenius

An introductory course in the structure, biochemistry, and function of the eukaryotic cell. BIOCHEM

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

Stoeckenius

An introductory course in the structure, biochemistry, and function of the eukaryotic cell. BIOCHEM

201. Seminar in Neurobiology. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

Dennis

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

202A-B-C. Basic Concepts of Neurosciences. (4-4-4) § F, W, Sp. Prerequisite: Admission to neuroscience program or consent of instructor. Lecture 4 hours.

R. Steinberg and Staff

Interdisciplinary introduction to nervous system function: membrane structure, biophysics, ion transport mechanisms, cellular neuroanatomy, synaptic transmission; biochemical and metabolic aspects, development of synaptic connections, plasticity, mainly invertebrate; sen-

sory and motor systems, mainly vertebrate; autonomic, and neuroendocrine regulatory mechanisms, higher functions. PHYSIOLOGY

212. Developmental Biology: The Role of the Cell Surface. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Enrollment limited. **Reichardt**

Course covers current literature on the role of the cell's surface in development, with emphasis on immune and neuronal systems. Student presentations will be given each week. PHYSIOLOGY

Human Development and Aging

201A-B-C. Interdisciplinary Seminar in Human Development. (3-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Three-quarter course.

Fiske (F), Suzman (W), Kiefer (Sp)

Theory and research covering adolescence to old age from sociological, psychological, psychoanalytical, and anthropological perspectives. Topics include stress, personality and cognitive change, time perspective, values, socialization processes, and adaptation. Reading and paper required. PSYCHIATRY

202A-B-C. Seminar in Analytic Methods. (3-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Chiriboga, Pierce (F), Kiefer, (W), Suzman (Sp)

One quarter on quantitative methods, including longitudinal; one quarter on the quantitative and qualitative manipulation of open-ended data; and one quarter on methods of survey research. Student research materials will be used where appropriate. PSYCHIATRY

203. Seminar in Problem Formulation and Research Design. (3) § F, W, Sp. Prerequisite: Consent of instructor. **Rosow**

Students work on their own research interests in terms of problem formulation, research design, and/or operationalization. Emphasis dependent upon individual student needs. PSYCHIATRY

204. Scientific and Literary Approaches to Personal Development. (2) § 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. Seminar on Data Analysis. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Rosow

Students either provide their own or use accessible data from ongoing research projects. Emphasis is on training in data organization, analysis, and research report writing. PSYCHIATRY

206A-B-C. Advanced Seminar on Stress. (2-2-2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

Fiske, Horowitz, Chiriboga, Visiting Faculty — UCB

This pro-research seminar, for advanced students with a strong background in the stress research literature, is devoted to elaboration of stress theory and concepts, and refinement of methodologies addressed to specific research projects. PSYCHIATRY

208. Theoretical Approaches to Psychosocial Change in Adulthood. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Fiske

An advanced course for students familiar with social sciences and clinical studies of adult change. Emphasis will be on in-depth

critiques of stage, process, stress, adaptation, and other conceptual models. PSYCHIATRY

209A-B-C. Interdisciplinary Seminar in Aging. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Staff

Emphasis on the aging literature; one quarter each focusing on: the individual and policy issues surrounding mental health and illness in later life; socialization, roles and intergenerational relationships; and problems and resources of the minority elderly in the United States. PSYCHIATRY

210. Socialization to Old Age. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Rosow

A seminar on adult socialization theory, with prospective socialization to an aged role as a special concern. Major issues involve norms for older people, the structure of socialization situations, and the pressure of variables normally affecting socialization in earlier status transitions. PSYCHIATRY

214. Developments in Social Science Philosophy. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.

Kiefer

Exploration of important new developments in the philosophy of social science; emphasis is on works of Jurgen Habermas and Anthony Wilden. 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

221A-B-C. Life Stress and Adaptation. (3-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Chiriboga, Fiske

Qualitative and quantitative analyses of life history protocols focusing on stress and perceptions of stress in relation to a variety of indicators of adaptation such as

psychological, physical, social at various life stages from adolescence to old age. PSYCHIATRY

225. Introduction to Computer Processing. (1 or 2) § W, Sp. Prerequisite: One course in statistics recommended. Consent of instructor. Lecture 1 hour, Lab 0-3 hours.

Pierce

Introduction to the use of the computer in the analysis of social science research data, with emphasis on facilities and programs available at the UCSF Information Systems and Computer Center. PSYCHIATRY

227. Biological Aspects of Aging and Old Age. (2-3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Independent study 3-4 hours.

Ellman

Physiological, biochemical, neurological, and anatomical changes occurring with aging are discussed. Important questions include the possible relationships to functional behavior of these changes in humans and the relevance of internal changes to psychological states. PSYCHIATRY

232. Developmental Study of Kinship Structure. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Thurnher

Kinship structure in Western and non-Western societies with emphasis on the life cycle perspective of family roles and relations. Consideration is given to relevant empirical studies and case material. PSYCHIATRY

236. Developmental Statistics. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Pierce

A statistics course structured to the needs of students of the Human Development and Aging Program. Special emphasis is given to methods appropriate to analysis of development and change, with attention more to the understanding of statistical ideas than to computation. 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

Human Sexuality

159. Human Sexuality. (1½) Sp. Lecture 1½ hours. **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

135. Reproduction, Growth and Development (Obstetrics-Gynecology and Pediatrics). (3) W. Lecture 3 hours. **Creasy**

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**

140.22. Responsibilities of Medical Practice (Medicine and Surgery). (1½ per week). F. Prerequisite: Medicine 110 and Surgery 110. **Jonsen, Dunphy**

Course will discuss economic forces, ethical and legal issues, social and cultural factors, and governmental policies affecting medical practice. It will define professional responsibilities in the context of these influences and the resulting forms and trends in medical practice. **SURGERY**

Laboratory Medicine

140.01. Clinical Pathology. (1½ per week) Su, F, W, Sp. Prerequisite: One year of medical school and consent of instructor. **UC Brecher, SFGH Pollycove**

Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radioisotopes are held in the clinical laboratories at *UC* and *SFGH*. **LAB MED**

140.03. Hematology Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Second year of hematology or equivalent. Recommendation from one faculty member. **Shohet and Staff**

Clerkship primarily in the clinical evaluation of hematologic patients. As interesting clinical problems arise, time will be available for laboratory projects relevant to those problems. Students will act as primary consultants under close supervision of hematology residents and fellows. **LAB MED**

140.04. Clinical Immunoematology in Transfusion and Transplantation. (1½ per week) W. Prerequisite: Completion of two core clerkships. **Vyas**

A two-week clerkship in transfusion service. Rational hemotherapy utilizing principles of physiology and immunoematology in evaluation of needs, risks and benefits of blood transfusion for replacement of blood loss and clinical management of various hematologic disorders. **LAB MED**

150.01. Laboratory Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Townsend**

An intensive four-week seminar series, using patient data, designed to increase the student's ability to choose and interpret laboratory tests in a variety of clinical settings. The scope of tests discussed includes hematology, blood banking, clinical chemistry, and microbiology. **LAB MED**

160.01. Diagnostic Use of Radionuclides. (2) Su, F, W, Sp. Prerequisite: One year of medical school. Lecture 1 hour, Clinic 4 hours. **Pollycove**

Basic laboratory course in nuclear medicine. Clinical participation in the diagnosis of patients receiving radionuclides in the outpatient clinics and in the wards. **LAB MED**

170.01. Clinical Pathology. (2) Su, F, W, Sp. **UC Brecher, SFGH Pollycove**

Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radioisotopes are held in the clinical laboratories at *UC* and *SFGH*. **LAB MED**

170.02. Diagnostic Immunoematology. (1½) F. Lecture 1½ hours. **Vyas**

Course covers laboratory aspects of blood banking, transfusion and immunoematology in seminars, reviews or formal lectures. Theoretical and practical aspects of blood grouping, tissue typing and diagnostic immunology are also included. **LAB MED**

400. Clinical Pathology Staff Seminars. (2) Su, F, W, Sp. **SFGH Pollycove, UC Brecher, VA Parekh**

Residents prepare summaries of selected clinical cases which present problems in correlation of clinical and laboratory data. Residents and faculty discuss relevant literature with special reference to technical aspects of laboratory procedures and interpretation of results. **LAB MED**

401. Special Clinical Pathology Seminar. (4) Su, F, W, Sp. **SFGH Pollycove, UC Brecher, VA Parekh**

Review of current laboratory procedures and problems in hematology, microbiology, immunology, blood banking, chemistry, and application of isotopes. Library research and occasional formal reports are required. **LAB MED**

402. Research Problems in Clinical Pathology. (1-10) Su, F, W, Sp.

SFGH Pollycove, UC Brecher, VA Parekh

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

403. Clinical Pathology Seminars. (1) Su, F, W, Sp. **Brecher**

Seminars in clinical pathology including clinical chemistry, hematology, immunohematology, microbiology, parasitology, and serology are conducted by faculty whose major interest is that under discussion. Residents do collateral reading for discussion of problems of interpretation, diagnosis, techniques, and research approaches. LAB MED

450. Clinical Pathology. (10) Su, F, W, Sp.

SFGH Pollycove, UC Brecher, VA Parekh

Principles of laboratory tests in hematology, chemistry, microbiology, and blood banking as well as interpretation of results and correlation of clinical and laboratory data. Residents participate in performance of tests and certain administrative duties related to operation of clinical laboratories. LAB MED

451. Clinical Pathology. (5-10) Su, F, W, Sp.

SFGH Pollycove, UC Brecher, VA Parekh

Theory and methodology of clinical chemistry, serology, blood banking, hematology, microbiology, parasitology, and clinical microscopy. Emphasis is on interpretation and correlation of data and study of literature. LAB MED

Medical Diagnosis

445. Medical Diagnosis. (2) Su, F, W, Sp. Clinic 6 hours. **Crede and Staff**

The dental intern participates in medical history-taking, physical examinations, ordering laboratory tests, and developing dif-

ferential diagnoses on medical clinic patients under the supervision of the medical staff. Comprehensive care of patients is emphasized. AMB CM MED

Medical and Biological Illustration

200A-B-C. Introduction to Graduate Study in Medical Illustration. (2-2-2) § F, W, Sp. Lecture 2 hours. Three-quarter course.

Wakerlin and Staff

Overview of theory in instructional development. Review and development of writing, style, and form for reports, essays, and theses. Study of scriptwriting for media as a special form and style of literary expression and language usage. MED ILLUS

201. Principles of Medical and Anatomic Illustration I. (4) § F, W, Sp. Lecture 1 hour, Lab 9 hours. **Stoelting, Wakerlin, Koelling**

Anatomic illustration; sketching from dissections; form and detail; rendering; color theory; individualized techniques development; perspective; theory of information selection and simplification; representation of structure and form in living tissue. MED ILLUS

202. Principles of Medical and Anatomic Illustration II. (4) § F, W, Sp. Lecture 1 hour, Lab 9 hours. **Stoelting, Wakerlin**

Anatomic sketching and illustration from dissection and autopsy; individualized techniques development; graphic art for media; form and detail in rendering; illustration from pathologic specimen preparations; reproduction techniques for illustrations in print media. MED ILLUS

203. Principles of Medical and Anatomic Illustration III. (3) § F, W, Sp. Lecture 1 hour, Lab 6 hours. **Stoelting, Wakerlin, Beindorf**

Continuation of individualized techniques development; principles underlying visual representation of statistical data;

construction of charts, graphs and diagrams from research data; graphics for projection; lettering systems; special graphics techniques utilizing photographic, diazo, 3M and other processes. MED ILLUS

204. Illustration of Pathology and Animal Surgery. (3) § F, W, Sp. Lecture 1 hour, Lab 6 hours.

Wakerlin, Stoelting, Feduska, Beindorf

Sketching, illustration and photography of pathologic tissue; regular autopsy observation, photography, sketching and illustration of procedures in animal surgery; study of normal colors and textures of tissue; illustration of instruments and their interaction with various tissues. MED ILLUS

205. Introduction to Surgical Illustration. (5) § F, W, Sp. Lecture 2 hours, Lab 9 hours.

Wakerlin, Stoelting, Beindorf

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

206. Advanced Surgical Illustration. (5) § F, W, Sp. Lecture 2 hours, Lab 9 hours.

Wakerlin, Stoelting, Beindorf

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

207. Specialty Surgical Illustration: Otolaryngologic and Ophthalmologic. (3) § F, W, Sp. Lecture 1 hour, Lab 6 hours.

Wakerlin, Stoelting

Review of anatomy and observation of the ear and eye through otoscope, ophthalmoscope and slit lamp. Ophthalmological illustration, endoscopic drawing; fin-

ished illustrations of a retinal field, slit lamp view and a microsurgical procedure. MED ILLUS

220. Seminar in Instructional Design and Communication Theory. (0) § F, W, Sp. Prerequisite: Consent of director. Lecture 2 hours. **Wakerlin and Staff**

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

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

For graduate students engaged in the thesis project for the master's degree. MED ILLUS

411. Introduction to Instructional Design and Communications Theory. (1) F. Lecture 1 hour. **Wakerlin**

Overview of theory basic to the development of instructional media. MED ILLUS

417. Introduction to Media. (3) F. Lecture 1 hour, Lab 6 hours. **Beindorf, Banks, Wakerlin**

Survey of media production technology and formats. Black and white photography methods. Theories of media; perception, light, composition, color, contrast, emphasis, impact; similarities and differences among media including appropriateness for different tasks. MED ILLUS

418. Media II. (4) W, Sp. Lecture 2 hours, Lab 6 hours. **Beindorf, Stoelting**

Theory of production. Storyboarding, scriptwriting, sound recording. Color reversal photography methods. MED ILLUS

419. Media III. (5) W, Sp. Lecture 2 hours, Lab 9 hours. **Beindorf, Stoelting**

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

421. Media VI — Motion Media, Film and TV. (4) F. Lecture 2 hours, Lab 6 hours.

Beindorf, Banks

Film and television. Videotape production in a studio setting with inserts of student-produced motion pictures. Theories of motion, dynamics of balance, subjective camera motion. Basic cinematography, TV technology, production economics. MED ILLUS

423. Graphics for Print Media. (4) F, W. Prerequisite: Medical and Biological Illustration 203. Lecture 2 hours, Lab 6 hours.

Wakerlin

Calligraphy; brochure design; photography in graphic design; layout; copy fitting; camera-ready mechanicals; typography; printing; photoengraving; specifications for printing; paper stocks, inks, etc. Production of a brochure for use on campus. MED ILLUS

425. Three Dimensional Illustration and Maxillofacial Prosthetic Reconstructions. (1-4) F, W or Sp. Prerequisite: Consent of instructor and approval of director.

Wakerlin, Koelling, Humelbaugh, Harwin

Basic three dimensional modeling, molding, and casting techniques. Preparation of cosmetic maxillofacial prosthetic reconstructions given major emphasis in course. Students assist in preparation of prostheses for clinic patients. MED ILLUS

426. Animation. (5) W. Lecture 2 hours, Lab 9 hours. **Beindorf, Stoelting, Wakerlin**

Techniques of motion picture animation. Terminology, animation camera and compound, pixillation, cycles, flow, movement of objects in space, timing, sound sync, shooting sheets, design of ten second character animation film with sound. Production is optional. MED ILLUS

428. Display Design and Construction. (1-4) F, W or Sp. Prerequisite: Consent of instructor and approval of director.

Wakerlin, Stoelting

Analysis of advantages and disadvantages of displays as teaching instruments. Aspects of design and construction: planning, design, materials, scale models, construction, logistics, cost effectiveness and handling. Field trips to display companies. Production of a display for an actual client. MED ILLUS

429. Media Project I. (5) Sp. Lecture 2 hours, Lab 9 hours.

Beindorf, Wakerlin, Stoelting, Banks

Students begin work on an actual instructional unit. The choice of medium will be determined by teaching needs, and developed through instructional design concept, storyboard, script, production planning, and budget. MED ILLUS

431. Media Project II. (3-9) F, W, Sp. Prerequisite: Consent of instructor and approval of director. Lecture Variable.

Beindorf, Wakerlin, Stoelting, Banks

Special study in educational TV, film, or print media; or completion of instructional unit (production and post-production) begun in Medical Illustration 429. MED ILLUS

432. Portfolio, Presentation and Graduate Show I. (3) F. Lecture 1 hour, Lab 6 hours.

Wakerlin, Beindorf, Stoelting

Portfolio design and development; portfolio expectations and applications. Work on production for graduate presentation; preparation of graduate show. MED ILLUS

433. Business and Administration Practices in Medical Illustration. (2) F, W or Sp. Seminar 2 hours. **Wakerlin and Staff**

Seminar. Reading and discussion of principles and practices for professional business management and departmental administration. MED ILLUS

434. Advanced Media Production. (3-9) F, W, Sp. Lecture Variable.

Beindorf, Banks, Wakerlin, Stoelting

Third-quarter continuation of Media Project series of Medical and Biological Illustration 429, 431 sequence, or course may be taken as an independent media production project of choice, including advanced animation. MED ILLUS

435. Special Study in Medical Illustration. (3-4) F, W or Sp. Prerequisite: Consent of instructor and approval of director.

Wakerlin and Staff

An elective for special study in area of choice. MED ILLUS

436. Portfolio, Presentation and Graduate Show II (1-3) F, W. Lab 3-9 hours.

Wakerlin, Beindorf, Stoelting

Final portfolio design and assembly. Production of final graduate media presentation; graduate show and arrangements. MED ILLUS

438. Biological Illustration. (2) F, W or Sp. Prerequisite: Consent of instructor. Lab 6 hours.

Christman, Stoelting

Taxonomic illustration of botanic, entomologic, parasitologic, microbiologic and other life science subjects for publication or projection. Various techniques are utilized, but mainly pen and ink. MED ILLUS

Medical Information Science

190. Information Structures. (4) § F. Prerequisite: Knowledge of one higher level programming language. Lecture 3 hours, Lab 3 hours.

Bolour

Course covers elementary and high level information structures, data models, file organization techniques and searching, and sorting. Special topics in non-numeric information handling are also included. MED INF SC

195. Clinical Laboratory Computer Science. (2) § W. Prerequisite: Bachelors degree in physical or biological science. Lecture 2 hours.

Henley

A review of the fundamentals of computer sciences as they relate to clinical laboratory information systems and a detailed examination of current clinical laboratory systems. Practical experience will be given programming sample clinical laboratory problems in high level languages. MED INF SC

199. Laboratory Project in Medical Information Science. (1-5) § F, W, Sp.

Staff

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

201. Medical Information Content and Organization. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours.

Simborg

Consideration of the uses of medical information and its content, organization, and format to serve these uses. Emphasis is on the medical record as a medium of medical information communication, and a review of medical information coding methodologies. MED INF SC

202. The Medical Environment. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.

Blois

Survey of the professions, institutions, organizations, and populations involved in the health care process; the aims, expectations, and constraints involved in the medical environment. Course provides background for students without previous medical/health care systems experience, concerning processes and functions. MED INF SC

205. Administration and Evaluation of Health Care Systems. (3) § Sp. Lecture 2 hours, Lab 3 hours.

Staff

Introduction to the concepts, principles, definitions and processes of management and financial accounting with particular emphasis on hospitals and other health care systems. MED INF SC

210A. Computer Systems I. (4) § W. Prerequisite: Medical Information Science 190 or equivalent, or consent of instructor. Lecture 3 hours, Lab 3 hours.

Wasserman

Introduction to computer system architecture and organization; operating systems; programming languages and their design. MED INF SC

210B. Computer Systems II. (4) § Sp. Prerequisite: Medical Information Science 210A or equivalent, or consent of instructor. Lecture 3 hours, Lab 3 hours.

Wasserman

Language processors; software engineering concepts; specification and design of software systems; and software reliability. MED INF SC

211. Introduction to Operations Research. (3) § F. Prerequisite: Elementary statistics or probability, and one year of calculus. Lecture 3 hours.

Staff

An introduction to mathematical programming, including linear programming, sensitivity analysis, and duality. Queuing processes and other selected topics such as computer simulation of operations research models are included. MED INF SC

222. Systems Analysis of Medical Care. (3) § F. Lecture 3 hours.

Stimson

Introduction to use of operations research and systems analysis as aids to design, management or evaluation of medical care systems. Application of operations research techniques to hospitals and other health care facilities is studied within a systems framework. MED INF SC

225A. Design of Medical Information Systems. (2) § F. Prerequisite: Consent of instructor. Lecture 1 hour, Lab 3 hours.

Henley

The design of previous medical information systems is examined. Successful components of the systems will be studied in depth, with respect to cost, performance, and acceptability. Field trips to existing systems will be made. MED INF SC

225B. Design of Medical Information Systems. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours.

Henley

The design of medical information systems is examined. The systems will be studied with respect to cost, performance and acceptability. Analysis and proposals for new systems will be done through laboratory sessions in medical settings. MED INF SC

225C. Design of Medical Information Systems. (4) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 6 hours.

Henley

The design of medical information systems is examined. The systems will be studied with respect to cost, performance and acceptability. Laboratory sessions involving analysis and interactive program implementation are a continuation of the studies in Medical Information Science 225B. MED INF SC

230A. Linear Models and Experimental Design. (4) § W. Prerequisite: Biostatistics 197 or equivalent, and one year of calculus. Lecture 3 hours, Lab 3 hours.

Heilbron

Techniques for designing and analyzing data from experiments and observational studies, using the methodology of linear regressions and the analysis of variance. Laboratory emphasizes computerized data analysis of clinical data. MED INF SC

230B. Linear Models and Experimental Design. (2) § Sp. Prerequisite: Medical Information Science 230A. Lecture 1½ hours. Lab 1½ hours.

Heilbron

Continuation of analysis of variance and experimental design, including covariance analysis, random blocks, repeat measures analysis; linear models in analysis of discrete data; linear logistic regression and log-linear models for contingency tables. MED INF SC

240. Data Base Management. (3) § Sp. Prerequisite: Medical Information Science 210B or equivalent, or consent of instructor.

Bolour

Course covers techniques for logical and physical data base organization, data independence, models of data, approaches to large scale data base management, security and privacy, data description languages, and query languages. MED INF SC

245. Seminar: Software Engineering. (3) § F. Prerequisite: Medical Information Science 210B or equivalent, or consent of instructor. Lecture 2 hours, Lab 3 hours.

Wasserman

Techniques for program design and development; methods for requirements definition and system specification; programming discipline; management of programming projects; verification and testing of programs; software tools. Emphasis on group participation in small software development projects. MED INF SC

247. Concepts of Information Science. (2) § W. Lecture 2 hours.

Blois

Course covers the treatment of a number of fundamental concepts which form the basis of information science, such as the nature of information and communication, and the problem of representation of knowledge. MED INF SC

250. Research in Medical Information Science. (1-8) § F, W, Sp.

Staff

MED INF SC

260. Computer Graphics. (3) § Sp. Prerequisite: Experience in programming and consent of instructor. Equivalent to Pharmaceutical Chemistry 260.

Langridge

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. MED INF SC

290. Seminar in Medical Information Science. (1-6) § F, W, Sp. Lecture 1 hour, Lab 0-15 hours.

Staff

Selected topics in medical information science. Subjects chosen will range from special topics in information science to hardware, software, and systems studies. MED INF SC

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

Staff

For students engaged in writing the dissertation for the Ph.D. degree. MED INF SC

Medicine

110. Basic Clerkship in Medicine at UC, SFGH, VA and MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Medicine 132A-B-C. Open to UCSF students only.

L. H. Smith, Carbone, Slesinger, R. Haber, Woeber

Students are part of the ward team with the house staff 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

131A-B-C. Introduction to Clinical Medicine. (1-3-2) F, W, Sp. Prerequisite: First-year standing or consent of instructor. Lecture 1-3 hours.

Naughton

Instruction in interviewing techniques; basic physical examination and interpretation of symptoms relating to locomotor system, eye, ear, upper respiratory tract, and skin; and social responsibilities of medical practice. Lectures, clinical demonstrations, conferences, preceptorship in ambulatory care setting. MEDICINE

132A-B-C. Introduction to Clinical Medicine. (6-11-3) F, W, Sp. Prerequisite: Anatomy 100, 102, and 103; Biochemistry 100A-B; Medicine 131 A-B-C; Microbiology 100A and 100B (may be taken concurrently); Pathology 101 and 102 (may be taken concurrently); Physiology 100 and 101; or consent of instructor.

Naughton

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. Advanced Clinical Clerkship at UC, MZ, SFGH and VA. (1½ per week) Su, F, W, Sp. Prerequisite: All core clerkships (with the exception of Ambulatory & Community Medicine 110 and Anesthesia 110, or by special permission). Completion of Medical Comprehensive Examination.

L. H. Smith, Carbone, Sleisenger, R. Haber, Woeber

Students are assigned patients for study on the staff and private wards. They are supervised by attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences where their patients are discussed. MEDICINE

140.02. Clinical Clerkship Off-Campus. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and approval of third and fourth year coordinator.

L. H. Smith, Carbone

Clinical clerkships in off-campus hospitals approved by the department chairman, third and fourth year coordinator and the dean. MEDICINE

140.03. Acting Intern in the Cancer Research Institute. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 131A-B-C.

Friedman and Staff

On Clinical Cancer Chemotherapy Service, students work-up patients, present them to attending staff and at conferences, do daily procedures, and write orders under supervision. MEDICINE

140.04. Senior Internal Medicine Clinical Clerkship at NRMCC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

Kemp

Clinical clerkship at NRMCC. Student functions as intern in ward medicine under supervision of residents and attending staff, or acts as consultant in selected subspecialty under supervision of board certified staff. MEDICINE

140.05. Cardiology at PMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor.

Selzer

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

140.07. Clinical and Physiological Aspects of Pulmonary Disease at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

Hopewell, J. Murray, Overland, Little

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

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

Schmid

Students become a part of the gastroenterology group and participate in all activities including work-up of patients in clinics and wards. They attend all conferences. MEDICINE

140.09. Clinical Cardiology Service at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 140.01 or equivalent

senior ward medicine experience. Consent of instructor.

Mailhot

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

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

Hulter

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

140.12. Clinical Cardiology at PHS. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and fourth-year standing.

R. Sullivan, Blumberg, Moffett

Students are assigned cardiac patients for work-up and management under supervision of resident, fellow, and instructors. They attend daily rounds, present patients in Cardiology Clinic, and observe cardiopulmonary unit procedure, including cardiac catheterization and cardioversion. Instruction in electrocardiology is included. MEDICINE

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

Lanzerotti

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

140.14. Endocrine-Metabolic Medicine at PHS. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor. **V. Schneider**

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

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

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

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

R. O. Wallerstein, Kan

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

140.17. Clinical Pharmacology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **R. Williams, Bourne, Sheiner**

Students evaluate patients regarding problems in drug choice, action of drugs, or drug efficacy. They present cases to a staff member for review, participate in daily rounds, conduct directed literature reviews, and are exposed to research efforts in the field. **MEDICINE**

140.18. Gastroenterology at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Brandborg**

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

140.19. Clinical Cardiology at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Bristow**

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

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

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

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

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

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

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics

for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists. **MEDICINE**

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

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

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

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

140.22D. Pathophysiology of Disease-Oncology. (6) F, W, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. **Siperstein, Sleisenger, L. Epstein**

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

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

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

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

Siperstein, Sleisenger, Melmon, Brater

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

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

Siperstein, Sleisenger, Talal, Fye

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

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

Siperstein, Sleisenger, I. Diamond

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

140.22I. Pathophysiology of Disease — Endocrine - Metabolism. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. **Siperstein, Sleisenger, Kaplan**

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

140.22J. Pathophysiology of Disease — Gastroenterology. (6) Su, F. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. **Siperstein, Sleisenger, Earnest, MacGregor**

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

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

Siperstein, Sleisenger, Boushey

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students par-

ticipate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists. MEDICINE

140.22L. Pathophysiology of Disease — Nutrition. (6) Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110.

Nestle, Siperstein, Sleisenger

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

140.23. Endocrine-Metabolic Medicine. (1½ per week) F, W, Sp. Prerequisite: Medicine 110.

Forsham

Students based at Metabolic Research Unit and eleventh floor Moffitt Hospital act as assistants to interns, residents, and research fellows on the ward; attend endocrine and metabolic clinics and seminars, and teaching exercises of endocrinology and metabolism, including grand rounds in medicine. MEDICINE

140.24. Rheumatology — Clinical Immunology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

Stobo

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

Humphreys

Students work-up and follow renal and electrolyte patients seen in the service, participate actively in hemodialysis and peritoneal dialysis; they attend thrice-weekly ward rounds and bi-weekly seminars in renal and electrolyte diseases. MEDICINE

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

Primary emphasis is on the treatment of acutely ill patients in Coronary Care Unit and Intensive Care Unit. Includes teaching in the use of monitoring and related electronic equipment, cardioversion, and related aspects of electrocardiography. MEDICINE

140.27. Clinical Clerkship Stressing Cardio-pulmonary Problems at C. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Griffeath**

Students attend rounds in the Coronary Care Unit; receive instruction in cardiology, stressing electrocardiography; may work in the pulmonary function laboratory, and attend all regular teaching conferences and seminars. MEDICINE

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

Course includes active consultation service averaging three new consults per day. Daily patient rounds; weekly combined Infectious Diseases/Pediatrics mini-rounds and Infectious Diseases intercity rounds. Introduction to two Infectious Diseases clinics per week. Reading and library research. MEDICINE

140.29. Hematology at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Shohet**

Students work-up and present patients in the wards and outpatient clinics, participate in conferences and seminars, and learn the laboratory procedures applicable to their patients. MEDICINE

140.30. Clerkship in Endocrinology-Metabolism at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Biglieri, Schambelan, and Staff**

The Endocrine-Metabolic Service provides daily house staff/fellow-supervised consultations, weekly clinic, biweekly rounds with senior staff, conferences on current research. Emphasis on clinical investigation studies of endocrine disorders in the Clinical Study Center, a seven-bed multicategorical general research center. MEDICINE

140.31. Gastrointestinal Clinical Clerkship at L. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **M. Butler**

Students function as clinical clerks, working-up patients under supervision of interns and residents. They assist in such specialized procedures as sigmoidoscopies per oral endoscopies. They attend radiology and pathology conferences and seminars with visiting consultants. MEDICINE

140.32. Coronary Care Unit at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Fourth-year standing or consent of instructor. A four-week cardiology elective or Medicine 140.01 is recommended. **R.W. Peters, Scheinman**

Students work as interns in the Coronary Care Unit and attend all regular teaching conferences and seminars. MEDICINE

140.33. Infectious Diseases at PMC. (1½ per week) Su, Sp. Prerequisite: Medicine 110. **Valentine**

Students may elect clinical clerkship in infectious diseases. Activities include working-up patients, relating laboratory data to clinical situations, making ward rounds, and attending seminars. MEDICINE

140.34. Clerkship in Renal Disease. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Rector**

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 at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Cheitlin, Rapaport, Scheinman, R.W. Peters**

Students see patients in consultation and wards and clinics, read electrocardiograms, review cases with cardiac consultant, and attend all seminars and conferences. MEDICINE

140.37. Coronary Care Unit at PMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Medicine 140.05 or equivalent four-week cardiology elective recommended. Limited to fourth year students. **Selzer**

Student will work-up, formulate treatment plans, and follow patients in the Coronary Care Unit. Daily rounds will be made with resident and attending staff. Opportunity to participate in other teaching rounds, conferences, and ECG reading as time permits. MEDICINE

140.38. Office Practice of Clinical Rheumatology at K. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and consent of instructor. **Fessel**

Primary office practice of clinical rheumatology dealing with all common rheumatological problems encountered in daily clinical practice. Opportunity to attend regular staff rounds and formal teaching rounds in rheumatology at K. MEDICINE

140.39. Clinical and Physiological Aspects of Pulmonary Disease at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **W. Gold**

Students examine patients in Chest Clinic, on the wards and in RCU and present them at ward rounds, pulmonary function

and radiology conferences. They participate in pulmonary function testing and do assigned reading. MEDICINE

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

Lifshay

Students examine patients in the outpatient office, on wards, ICU, RCU and present them at rounds. Opportunity to participate in pulmonary function testing, and introduction to respiratory therapy and chest physical therapy techniques. Acute and chronic care will be emphasized. MEDICINE

140.41. Gastroenterology at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth year students. **Cello**

Students are responsible for evaluation of gastrointestinal patients on medical and surgical wards. Student work-ups are thoroughly discussed with gastroenterology staff. Students observe GI techniques including sigmoidoscopy, colonoscopy, endoscopy, liver biopsy. Daily clinical conferences are held at three affiliated hospitals. MEDICINE

140.42. Clinical Pharmacology at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **C. Becker**

Students participate in daily pharmacology seminars reviewing basic pharmacology and therapeutic principles of commonly used drugs. Students evaluate patients regarding problems of drug choice and drug interaction. Emphasis is placed upon alcoholism, narcotic addiction, poisoning, shock and management of hypertension. MEDICINE

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

A four to twelve week introduction to rheumatology and immunology, offering both clinical and laboratory experience. The

student will participate in inpatient and outpatient care and take part in didactic and practical aspects of the research program. MEDICINE

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

Kaltreider

Students examine patients in the Chest Clinic, on the wards and in RCU and present them at ward rounds, pulmonary function and radiology conferences. They participate in pulmonary function testing and do assigned reading. MEDICINE

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

140.50. Hematology Oncology at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **R. Cohen**

Intensive clinical course emphasizing the diagnostic evaluation and management of patients with blood disease or cancer. The latest techniques in therapy are studied with stress on blood morphology and laboratory test interpretation. Exposure to specialized oncology care unit also available. MEDICINE

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

Clinical clerks participate in diagnosis and treatment of patients with gastrointestinal problems, biopsy and endoscopic pro-

cedures, and use of medical literature in clinical problem solving. Weekly seminars in pathophysiology, journal club, and tissue review supplement a full conference schedule. MEDICINE

140.52. Clinical Renal Elective at VA. (1½ per week) Su, F, W. Prerequisite: Medicine 110. **Arieff**

Clerkship in clinical nephrology. Lectures, rounds, conferences, renal biopsy review. Patients with acute and chronic renal disease, acute and chronic dialysis patients, patients with fluid and electrolyte problems. Renal grand rounds, journal club, nephrology research, and renal radiology conferences weekly. MEDICINE

140.53. Infectious Disease at MZ. (1½ per week) F, W, Sp. Prerequisite: Medicine 110. **W. Drew**

Clinical Infectious Disease Service and Clinical Microbiology Laboratory provide optimal integration of clinical and laboratory medicine. Emphasis on learning techniques of diagnostic microbiology such as bacteriology, virology, parasitology, mycology, and diagnosis management of patients with infections; research in either area. MEDICINE

140.54. Nephrology at A. (1½ per week) F, W, Sp. Prerequisite: Medicine 110. **Gise, L. Gold**

Rounds with directors of Renal Service on inpatients with a variety of renal diseases, fluid, electrolyte, acid and base disorders; outpatients on chronic hemodialysis and exposure to acute hemodialysis, and related problems. Didactic sessions in clinical renal physiology. MEDICINE

140.55. Acting Internship at C. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth year students. **Griffeth**

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

140.56. Geriatric Medicine Clerkship at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Feigenbaum, Blumberg, Botkin, H. Weinstein, Brownstein**

Course offers opportunity for participation in various medically oriented geriatric programs. Assignment to health care teams seeing patients at home, at MZ Geriatric Day Care Center, and the Jewish Home for the Aged. Supervision under MZ faculty and house staff. MEDICINE

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

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

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

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. Medical Transplantation. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year standing. **Amend, Vincenti**

Rotation through an active renal transplant service including clinical immunology, clinical renal pathophysiology,

renal diagnosis such as X-ray, biopsy, scan. The student's experience in the care of inpatients and outpatients will encompass other internal medical problems as well. MEDICINE

140.60. Rheumatology Clerkship in Fresno. (1½ per week) Prerequisite: Fourth-year standing. **Bertken**

Full-time clinical experience in rheumatology at Valley Medical Center, Veterans Administration Hospital, Valley Children's Hospital, and at a private practice office. Major patient responsibilities, a broad spectrum of diseases, and close relationship with instructor. MEDICINE

140.61. Acting Internship in Internal Medicine at VAF. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year standing. **Morrelli**

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 at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Surgery 110. **Hellerstein**

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. Elective in Internal Medicine. (1½ per week) Su, F, W, Sp. **Shearn**

Fourth-year elective rotation for one month on medical wards at Kaiser Permanente Medical Center in Oakland. Students will be integrated into the residen-

cy training program and will be involved in the care of hospitalized patients in an urban community prepaid health plan hospital. MEDICINE

140.64. Cardiology-Electrocardiography at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **D. Perloff**

Course instructs students on how to interpret electrocardiograms with additional exposure to other noninvasive procedures including echocardiography, treadmill exercise testing, and use of radioisotopes in cardiology. Students will also attend cardiology conferences, clinics, and coronary care unit rounds. MEDICINE

150.02. Research in Medicine. (1½ 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. **L. H. Smith, Carbone**

Students continue previously initiated research projects under the guidance of faculty members. MEDICINE

150.03. Cancer Viruses. (1½ per week) Su, F, W, Sp. Prerequisite: Basic course in microbiology. **J.A. Levy**

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

160.03. Interdisciplinary Clinical Skills. (2) W, Sp. Prerequisite: Second year standing or consent of instructor. Seminar 1 hour. Lab 3 hours. **Naughton, Veatch**

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

170.04. Fundamentals of Electrocardiography at 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. Fundamentals of Electrocardiography Interpretation. (1) W. Prerequisite: Medicine 131A. Lecture 1 hour.

Rapaport

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

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

Rapaport

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

170.08. Introduction to Cancer Medicine. (2) F. Lecture 2 hours.

L. White

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

170.09. Current Topics in Medical Science. (2) Su, F, W, Sp. Lecture 2 hours.

D. W. Martin, Nestle

Faculty from the basic sciences and clinical departments will discuss their current research in this advanced lecture, seminar, and reading course designed for students interested in medical research. Emphasis will be on analysis and critical evaluation of biomedical research. MEDICINE

198. Supervised Study in Medicine. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor preceptor and approval of third and fourth year coordinator.

L. H. Smith, Carbone

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

199. Laboratory Project in Medicine. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor preceptor and approval of third and fourth year coordinator.

L. H. Smith, Carbone

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

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

UC L.H. Smith, 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 in their respective fields. MEDICINE

401. Interdepartmental Clinical Correlation Course. (4) F, W, Sp.

L. H. Smith

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. Seminars in Medical Literature. (1 1/2) 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 Seminars. (2) F, W, Sp.

L. H. Smith

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

404. Specialty Seminars. (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 Seminars. (4) F, W, Sp.

VA Sleisenger

Seminars are conducted in cardiology, electrocardiography, 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 Problems in Fundamental Aspects of Disease. (1-10) Su, F, W, Sp.

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

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

407. Clinicopathological Conferences. (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. Electrocardiographic Interpretation. (2) Su, F, W, Sp. **Sokolow**

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

450. Clinical Medicine. (10) Su, F, W, Sp. **SFGH H. Williams, UC L. H. Smith**

Residents are responsible for the care of patients, under the direction of the attending staff, and participate in student teaching. Third year, senior, and chief residents provide teaching and consultation service in the hospitals and outpatient clinics. MEDICINE

451. Clinical Medicine at 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. (1½ 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. (½ per week) Su, F, W, Sp. Prerequisite: Refer to Ambulatory and Community Medicine 460.

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

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 Residency Program as well as related clinical services such as Dermatology, Neurology. MEDICINE

490. Clinical Medicine. (1½ per week) Su, F, W, Sp. **SFGH H. Williams**

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

491. Clinical Medicine. (1½ 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. (1½ per week) Su, F, W, Sp. **UC L. H. Smith**

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. Biologic Agents of Disease. (1½) Sp. Prerequisite: Biochemistry 100A-B. Lecture 3 hours for five weeks. Equivalent to Microbiology 190A. **W. Levinson**

Lectures on the fundamentals of immunology. Small group seminars on patient-related problems in this field. MICROBIOL

100B. Biologic Agents of Disease. (6½) F. Prerequisite: Biochemistry 100A-B. Lecture 4½ hours. Lab 3 hours. Small group discussion 1 hour. Equivalent to Microbiology 190B and 190C. **W. Levinson, Jawetz**

Lectures on fundamentals of virology; pathogenesis of infection by, and resistance to, bacteria and fungi. Natural history, essentials of diagnosis, treatment, and epidemiology of diseases. Laboratory demonstrations and exercises of essential medical skills. Problem-solving exercises involving clinical cases. MICROBIOL

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

Halde and Staff

Morphology and physiology of microorganisms including bacteria, molds, yeasts, and viruses and techniques to study them. Fundamentals of infection and resistance, immunology, microbial genetics, disinfection, chemotherapy, biologic products, and epidemiology. Problems in laboratory diagnosis, treatment and prevention of infectious diseases. MICROBIOL

126A. Microbiology. (1) Sp. Lecture 1 hour. **Hurst, R. Speck**

Introduction to general immunology. MICROBIOL

126B. Microbiology. (5) W. Lecture 3 hours. Lab and conference 6 hours. **Hurst, R. Speck**

Comprehensive presentation of microorganisms including bacteria, fungi, viruses; fundamentals of infection and resistance, disinfection, sterilization, and antimicrobial agents. Laboratory studies and demonstrations on indigenous oral flora and applications of microbiology to dentistry. MICROBIOL

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

Research in microbiology; block elective for fourth year students. MICROBIOL

190A. Medical Microbiology for Graduate Students. (1½) § Sp. Prerequisite: Biochemistry 100A-B. Lecture 3 hours for five weeks. Equivalent to Microbiology 100A. **W. Levinson**

Lectures on the fundamentals of immunology. Small group seminars on patient-related problems in this field. MICROBIOL

190B. Medical Microbiology for Graduate Students. (4-5) § F. Prerequisite: Biochemistry 100A-B or equivalent. Lecture 3 hours. Conference 1 hour. Lab 4 hours (may be omitted with consent of instructor). Equivalent to Microbiology 100B. **Jawetz**

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

190C. Medical Microbiology for Graduate Students. (1½) § F. Prerequisite: Biochemistry 100A-B. Lecture 1½ hours. **W. Levinson**

Lectures on the fundamentals of virology. Small group seminars on patient-related problems in this field. MICROBIOL

198. Supervised Study in Microbiology. (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 in Microbiology. (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. Molecular and Cellular Immunology. (3) § F. Prerequisite: Biochemistry 100A-B and Microbiology 100A and 100B or equivalents. Lecture 3 hours. Offered in alternate years. Offered 1979-80. **J. Goodman**

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

204. Immunobiology. (3) § W. Prerequisite: Microbiology 100A and 100B or equivalent course in basic immunology. Offered in alternate years. Offered 1979-80. **Linscott**

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

205. Selected Topics in Cellular Immunology. (3) § Sp. Prerequisite: Microbiology 203 and 204. Lecture 3 hours. Offered 1980 only. **C. L. Miller**

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

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

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

207. Cellular Immunology Laboratory. (3) § Sp. Prerequisite: Microbiology 203, 204 and concurrent enrollment in Microbiology 205. Lab 9 hours. Offered 1980 only. **C.L. Miller**

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

208. Molecular Biology of Animal Viruses. (3) § W. Prerequisite: General knowledge of nucleic acid structure and chemistry and multiplication of viruses. Lecture 2 hours. Seminar 1 hour. Offered in alternate years. Not offered 1979-80. **Bishop, W. Levinson, Levintow, Varmus**

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. Research Problems in Immunochimistry. (3) § F, W, Sp. Prerequisite: Microbiology 203 or equivalent and consent of instructor. Lab 9 hours. **J. Goodman**

Participation in ongoing research problems in the instructor's laboratory. This is not a structured laboratory methods course, but rather a practical research experience in an immunology laboratory involving basic research on mechanisms of lymphocyte activation by antigens and cell interaction. MICROBIOL

213. Clinical and Basic Immunology and Immunopathology. (2) § Sp. Lecture 2 hours. **Stobo, Talal**

The pathophysiology of autoimmune, rheumatic and certain malignant diseases in relationship to immunologic mechanisms; basic principles of lymphocyte heterogeneity and function; immunologic mechanisms leading to tissue destruction

and factors regulating lymphocyte proliferation. Review paper on a selected topic is required. MICROBIOL

220. Seminar. (0) § F, W, Sp. Seminar 1 hour. **Staff**

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

221. Oral Microbiology. (1) § F. Prerequisite: Consent of instructor. Seminar 1 hour. **Hurst**

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

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

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. MICROBIOL

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

Morphology

110A. Morphology — Occlusion. (1) F. Prerequisite: Concurrent enrollment in Morphology 115A. Lecture 1 hour. **Tueller**

Course introduces the student to tooth morphology and includes discussion of the development and form of the primary and permanent dentition. RESTOR DENT

110B. Applied Morphology — Occlusion. (1) W. Prerequisite: Morphology 110A and 115A. Concurrent enrollment in Morphology 115B. Lecture 1 hour. **Tueller, Meli**

The application of individual tooth and arch form to interarch relationships. RESTOR DENT

115A-B. Morphology of Human Dentition. (0-4, 0-4) F, W. Prerequisite: Concurrent enrollment in Morphology 110A and 110B. Lab 6 hours. **Hamaguchi**

Study of individual tooth form and relationship to adjacent and opposing anatomical structures. RESTOR DENT

Neurological Surgery

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

140.01. Clinical Neurological Surgery Clerkship at UC, SFGH or VA. (1½ per week) Su, F, W, Sp. **C. B. Wilson, Rosegay, Pitts**

The student will become a member of the house staff, attending ward rounds, working-up patients, assisting at operations, and taking night call on rotation with a resident. Limited to one student per hospital. NEURO SURG

140.02. Clinical Neurological Surgery Clerkship at SFGH or VA. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110. **Pitts**

Student becomes a member of the house staff, attending ward rounds, working-up patients, assisting at operations, and taking night call on rotation with a resident. Limited to one student per hospital. NEURO SURG

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

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

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

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

400. Neurological Surgery Staff Conference at UC. (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

401. Combined Staff Conference, Neurology and Neurological Surgery. (1) F, W, Sp. **C.B. Wilson**

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

402. Clinicopathological Conferences at UC. (2) Su, F, W, Sp. **Boldrey, 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. Seminar in Literature of Neurology and Neurological Surgery at UC. (1) Su, F, W, Sp. **G. Clark**

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. Clinical Neurological Surgery at 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. Clinical Neurological Surgery at SFGH.
Pitts

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

453. Clinical Neurological Surgery at VA.
M.S. Edwards

Residents are responsible for diagnosis and care of patients in wards and clinics and performance of studies and selected neurosurgical procedures under supervision of the attending staff. They also present patients at conferences and attend seminars and rounds at UC. NEURO SURG

490. Clinical Neurological Surgery at SFGH and VA. (1½ per week) Su, F, W, Sp.

Pitts, M.S. Edwards

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. Clinical Clerkship in Neurology and Neurosurgery at UC, SFGH, VA and L. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 132 A-B-C. Concurrent enrollment in Psychiatry 135. R. Fishman, C.B. Wilson

Students are assigned patients for study under supervision of attending and resident staffs. They attend work rounds, attending rounds, grand rounds, conferences and lecture-seminars, emphasizing diagnosis and management of common clinical problems and psychiatric aspects of neurology. NEUROLOGY

140.01 Advanced Clinical Neurology Clerkship at UC, SFGH and VA. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110. Approval of the chairperson of the department. R. Fishman

Students serve as clinical clerks in the inpatient services and outpatient clinics. Attendance at departmental clinical rounds, seminars, and conferences is required. NEUROLOGY

140.02. Extramural Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110. R. Fishman

Clinical clerkship in approved hospitals by special arrangement and approval of the Dean and the chairperson of the department. NEUROLOGY

140.03. Advanced Clinical Clerkship at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor. R. Fishman

Students serve as clinical clerks in the Outpatient Clinics. Attendance at departmental clinical rounds, seminars, and conferences is required. Prior arrangements must be made. NEUROLOGY

140.04. Child Neurology. (1½ per week) Su, F, W, Sp. Prerequisite: Pediatrics 110, Medicine 110, and Neurology 110. Berg

Participation in child neurology activities, both inpatient and outpatient, and all regularly scheduled conferences of the Child Neurology Division. Study of the developing nervous system and diseases of the nervous system affecting infants, children and adolescents. NEUROLOGY

140.05. Advanced Clinical Clerkship at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology and consent of instructor. R. Fishman

Students serve on the consultation service under the supervision of resident and attending neurologist. Attendance at departmental clinical rounds, seminars, and conferences is required. Prior arrangements must be made. NEUROLOGY

140.06. Advanced Clinical Clerkship at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor. R. Fishman

Students serve on the consultation service under the supervision of resident and attending neurologist. Attendance at departmental clinical rounds, seminars, and conferences is required. Prior arrangements must be made. NEUROLOGY

150.01. Research in Neurology. (1½ per week) Su, F, W, Sp. Prerequisite: Anatomy 103. R. Fishman

Opportunities for research in one of the departmental laboratories by arrangement with the chairperson of the department. NEUROLOGY

150.02. Neuropathology. (1½ per week) F, W, Sp. Prerequisite: Anatomy 103 and Pathology 102. Baringer

Tissue pathology of diseases of the nervous system will be explored in greater depth in the postmortem room and by gross and microscopic techniques. NEUROLOGY

199. Laboratory Project in Neurology. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor. R. Fishman and Staff

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

400. Neuroscience Seminars. (1½ per week) Su, F, W, Sp. **R. Fishman**

Seminars covering selected subjects in the basic sciences relevant to neurology including neuroanatomy, neurochemistry, neurophysiology, and neuropathology. **NEUROLOGY**

401. Grand Rounds. (1) Su, F, W, Sp. **R. Fishman**

Conference includes resident preparation and presentation of patient case histories including reference to the literature, laboratory work, and special studies. Faculty members and visiting professors from other universities discuss new developments in their respective fields. **NEUROLOGY**

402. Neurological and Neurosurgical Pathology. (1) Su, F, W, Sp. **Malamud**

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. Research in Neuropathology. (1-10) Su, F, W, Sp. Prerequisite: Second and third year residents. **Malamud**

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**

404. Research in Electroencephalography. (1-10) Su, F, W, Sp. **Aminoff**

Clinical or basic research in various aspects of electroencephalography may be undertaken under supervision. Specific subjects of research are chosen in conjunction with members of the staff. **NEUROLOGY**

407. Neuroradiology. (1) F, W, Sp. **T. Newton, D. Norman, Winestock, Mani**

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. Research in Neurochemistry. (5-13) Su, F, W, Sp. **R. Fishman**

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

412. Research in Neuropathology. (10) Su, F, W, Sp. **VA Baringer**

Specific projects in experimental pathology of the nervous system may be undertaken by direct arrangement. Techniques include neurohistology, histologic autoradiography, and electron microscopy. **NEUROLOGY**

453. Instruction in Clinical Electroencephalography. (1½ 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 Training in Electromyography. (1½ per week) Su, F, W, Sp. **Pickett**

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. (1½ per week) Su, F, W, Sp. **Malamud**

Residents spend three months or more in the Neuropathology Laboratory at *LPI* performing supervised autopsies and pathologic studies of brains from neurological, neurosurgical, and psychiatric patients. **NEUROLOGY**

458. Clinical Pediatric Neurology. (1½ per week) Su, F, W, Sp. **Berg**

Course offers experience in the diagnosis and management of children with acute and chronic neurologic disorders. Outpatient clinics are held weekly for pediatric convulsive disorders and behavioral and learning problems of the schoolchild. **NEUROLOGY**

460. Clinical Neuro-ophthalmology. (4½) Su, F, W, Sp. **W. Hoyt**

Residents participate in clinical evaluation of patients in preparation for rounds. Clinical teaching in neuro-ophthalmology. **NEUROLOGY**

Nursing

101A. Introduction to Nursing. (2) SS. Prerequisite: Admission to School of Nursing. **Lewis**

Course introduces nursing students to the role of their profession in today's society and provides an orientation to a specific system of teaching and learning. **FAM HLTH**

101B. Introduction to Nursing. (1) F. Lecture 1 hour. **Lewis**

Course introduces nursing students to the role of their profession in today's society and provides an orientation to a specific system of teaching and learning. **FAM HLTH**

102. Analysis and Presentation of Clinical Data. (2) W. Prerequisite: Nursing 101A and/or 101B, or consent of instructor. Lecture 2 hours. **Lewis**

Development of a systematic approach to the analysis and presentation of clinical data. Course emphasizes current nursing and medical knowledge, concepts and terminology, while utilizing material from parallel courses. FAM HLTH

110. Physiological Basis of Nursing Assessment. (3) F. Prerequisite: Consent of instructor. Lecture 3 hours. **Maye**

Alterations of normal structure and function in selected major organ systems that occur in common illnesses are examined. Emphasis is placed on physiological concepts and facts that facilitate nursing observations and assessment. BIOL DYS FUNCT

111A. Health Assessment in Nursing. (7) F, W, Sp. Prerequisite: Nursing 110 or concurrent enrollment. Lecture 2 hours, Lab 15 hours. **Staff**

Explores the components of health, theoretical basis of health assessment, and identification of patient problems. Introduces the role of the nurse as a health assessor in inpatient and outpatient settings, on an age continuum from infancy to senescence. BIOL DYS FUNCT

111B. Health Assessment in Nursing. (7) F, W, Sp. Prerequisite: Nursing 110 and 111A. Lecture 2 hours, Lab 15 hours. **Staff**

Explores the components of health, theoretical basis of health assessment, and identification of patient problems. Introduces the role of the nurse as a health assessor in inpatient and outpatient settings, on an age continuum from infancy to senescence. BIOL DYS FUNCT

112. Small Groups: Theories and Issues. (2-3) § F, W, Sp. Lecture 2 hours. Lab 0-3 hours. Required course for graduates. **Furuta**

Course provides a theoretical foundation on the dynamics of small groups. Principles and issues related to the structure and functioning of groups are explored. Optional experiential laboratory includes the application of theoretical data through process group participation. MENT HLTH COM

113A. Communication: Theory and Practice in Nursing. (2) F, W, Sp. Prerequisite: Concurrent enrollment in Nursing 111A or consent of instructor. Lecture 2 hours. **Norbeck**

Communication theory and principles in laboratory and clinical settings. Development and utilization of communication skills in nursing practice. Application of these skills with clients in the delivery of health care. MENT HLTH COM

113B. Communication: Theory and Practice in Nursing. (2) F, W, Sp. Prerequisite: Concurrent enrollment in Nursing 111B or consent of instructor. Lecture 1 hour, Lab 3 hours. **Lipson**

Communications theory and principles in laboratory and clinical settings. Development and utilization of communication skills in nursing practice. Application of these skills with clients in the delivery of health care. MENT HLTH COM

114A. Introduction to Family Health Care Nursing. (3) F, W, Sp. Prerequisite: Psychology 113A. Concurrent enrollment in Nursing 111B. Lecture 2 hours. Lab 3 hours. **Staff**

Introduction to the nursing process through an in-depth involvement with a family unit in a primary health care setting. Theories, concepts, and issues related to family development from conception to death will be explored. FAM HLTH

114B. Introduction to Family Health Care Nursing. (1) W, Sp. Prerequisite: Nursing 114A. Lab 3 hours. **Staff**

Introduction to the nursing process through an in-depth involvement with a family unit in a primary health care setting. Theories, concepts, and issues related to family development from conception to death will be explored. FAM HLTH

117. Psychological Adaptations in Health and Illness. (5) F, W, Sp. Prerequisite: Nursing 110, 111A and 111B, 113A and 113B, 114A and Psychology 113A-B. Concurrent enrollment in Nursing 118. Lecture 2 hours, Lab 9 hours. **J. G. Lipson**

Course deals with theory and practice essential to identifying, understanding, and intervening in forms of adaptive behavior in a variety of settings. In laboratory, focus is on working with psychiatric patients, using the nurse-patient relationship as a therapeutic tool. MENT HLTH COM

118. Family and Community Patterns in Health and Illness. (5) F, Sp. Prerequisite: Concurrent enrollment in Nursing 117. Lecture 3 hours. Lab 6 hours. **Staff**

Theory and practice essential to the assessment of family and community patterns in health and illness, and for planning, implementing, and evaluating nursing care measures related to families, groups, and communities. FAM HLTH

119. Pathophysiological Adaptation. (8) F, W, Sp. Prerequisite: Nursing 110, 111A and 111B, 113A and 113B, and 114A. Lecture 2 hours, Lab 18 hours. **Avigliano**

Selected pathophysiological interruptions and adaptations in children and adults. Emphasis on promotion of optimal physiological function through assessing levels of function, evaluating adaptive mechanisms, and investigating nursing interventions. Laboratory to implement nursing process utilizing course content framework. BIOL DYS FUNCT

121. Physiological Basis of Nursing Practice. (3) F, W, Sp. Prerequisite: Nursing 110, 111A and 111B. **V. Young**

Course examines structural and functional alterations and related adaptive mechanisms in disease of selected major organ systems, and discusses manifestations, diagnostic tools, and therapies of disease processes in relation to nursing assessment and action. BIOL DYS FUNCT

123. Seminar in Advanced Social Systems Theory and Application to Nursing Practice. (2) Sp. Prerequisite: Sociology 123 or consent of instructor. Lecture 2 hours. **Staff**

In-depth exploration and application of social systems and change theories to clinical experience. Identification of factors which affect the delivery of nursing care and the quality of health services. FAM HLTH

125. Issues in Nursing and Health Care. (3) W. Prerequisite: Second year standing. Lecture 3 hours. **Meleis**

Consideration of advances in nursing and other disciplines. Examination of the health care system and the relationship of nursing to it. MENT HLTH COM

130A. Clinical Practice in Circumscribed Areas of Nursing. (8) F, W, Sp. Prerequisite: Nursing 110, 111A and 111B, 112, 113A and 113B, 114A and 114B, 117, 118, 119, 121 and Sociology 123. Lecture 2 hours, Lab 18 hours. **Staff**

Course provides theory and clinical experience in a focused area of nursing practice over two quarters. Emphasis is on further development of clinical competence, utilization of a systematic method of inquiry, and development of the leadership role. MENT HLTH COM

130B. Clinical Practice in Circumscribed Areas of Nursing. (8) F, W, Sp. Prerequisite: Nursing 130A and Sociology 123. Lecture 2 hours. Lab 18 hours. **Staff**

Course provides theory and clinical experience in a focused area of nursing practice over two quarters. Emphasis is on further development of clinical competence, utilization of a systematic method of inquiry, and development of the leadership role. MENT HLTH COM

155. Clinical Uses of Drugs. (3) F, W, Sp. Lecture 3 hours. **Okamoto**

Course deals with commonly used drugs, with emphasis on classification, use, rationale for choice, mode of action, and significant side effects. BIOL DYS FUNCT

156. Creative Uses of Play with Young Children. (3) F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours or equivalent time spent in weekend workshops. **Hardgrove**

A practical introduction to play designed to increase nursing skills in promoting growth, communication and mental health in young children, using experiences and demonstrations with play materials, techniques, and methods in relating to young children therapeutically. FAM HLTH

177. Theory and Process of Human Interaction. (3) W, SS. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **Rosenaur and Staff**

Relevant principles of psychiatric theory, including communication and interpersonal, are related to interactional patterns of adult health nurse practitioners as they relate to individuals in their health maintenance role. Problems in interactional process are explored. Laboratory required. FAM HLTH

181. Law and the Practice of Nursing. (2) § W. Lecture 2 hours. **Tennenhouse, Takano**

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. BIOL DYS FUNCT

182A-B. Health Education in Practice. (3-3) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **R.A. Terry**

Processes and means of incorporating health education into professional practice: identification of audience, delineation of specific pertinent health concern, and exploration of modes of transmitting health information. Evaluation methods are explored. MENT HLTH COM

189. Survey of Human Sexuality. (3) § F, W, Sp. Lecture 3 hours. **Zalar**

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 dysfunctions and therapy, masturbation, homosexuality, and sexuality in some health conditions. FAM HLTH

197. Group Independent Study. (1-5) F, W, Sp. **Staff**

Groups of two or more collaborate in clinical investigation and studies of special problems related to nursing and health sciences, under the direction of faculty. Students may select study topics related to their areas of interest. FAM HLTH

198. Supervised Study in Nursing. (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. FAM HLTH

199. Laboratory Project in Nursing. (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. FAM HLTH

200. Administrative Problems of Nurse Managers. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **Archer**

Theories of organization in relation to the dilemmas nurse managers face in administering nursing service and educational programs. Special emphasis is placed on ambulatory care settings and schools of nursing. MENT HLTH COM

201. Curriculum Development in Nursing. (4) § F, Sp. Lecture 4 hours. **Dunlap**

Principles of curriculum development. Utilization of these principles as a frame of reference for planning educational programs in schools of nursing and nursing services. BIOL DYS FUNCT

202. Conceptual Models in Nursing. (2-4) § F, W, Sp. **Dunlap, Meleis**

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

203. Theory and Process of Consultation. (2-3) § Sp. Lecture 2 hours. Lab 0-3 hours. **Oda, Hookins**

Study of theories and concepts of consultation as a facilitating process relevant to nurses working in primary, secondary, and tertiary prevention services. Emphasis will be on consultation strategies. Optional laboratory for theory testing. MENT HLTH COM

204A-B-C. Comparative Nursing Administration. (2-3, 2-3, 2-3) § F, W, Sp. Prerequisite: Consent of instructor. **Archer, Schatzman, Hill**

Comparative analysis of nursing with emphasis on nursing administration in the United States and other selected countries, using perspectives from anthropological,

educational, historical, organizational, philosophical, and sociological contexts applicable to each country. Particularly recommended for international students. MENT HLTH COM

205. Processes of Supervision. (3) § W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **Giles**

A study of the supervisory process, the role of the supervisor, the development of staff, and the principles and practice of supervision in nursing. Observation and laboratory experience in supervision arranged for and guided by the faculty. MENT HLTH COM

206. Microteaching. (4) § F, W, Sp. Lecture 2 hours. Lab 2 hours plus other hours to be arranged. **Eaton**

Analysis of the selected teaching components of reinforcement, stimulus variation, questioning, set induction, and closure utilized in individual and group instruction with application and practice in a microteaching laboratory setting. BIOL DYS FUNCT

207. The Teaching-Learning Process. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Francis**

Exploration of teaching methodologies with a focus on the changing characteristics of student learners, and the changing roles of health professionals. Principles of evaluation and test construction are emphasized. FAM HLTH

210A. Family Dynamics, Concepts and Assessment. (3) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **J. Moore**

Lecture/seminar that examines family dynamics and major concepts useful in assessment of families. The family as a system wherein roles, cultural values, and interpersonal communication are emphasized, is considered. Selected research included. MENT HLTH COM

210B. Family Dynamics, Pathology and Therapy. (3) § Sp. Prerequisite: Nursing 210A or equivalent and consent of instructor. Lecture 2 hours, Lab 3 hours. **J. Moore**

Seminar emphasizing family concepts which aid in the understanding of dysfunctional families. Marriage and family therapy as treatment modalities are studied. Simulation laboratory experiences are used to test theory. Concurrent enrollment in Nursing 405 with consent of instructor. MENT HLTH COM

211A. Introduction to Research: Perspectives and Styles of Research and Researchers. (3) § F, Sp. Prerequisite: Elementary statistics or equivalent. Lecture 2 hours, Lab 3 hours. **Schmalenberg**

Lectures and small group sections present an overview of the research process including the styles of researchers, the research attitude, logic, ethics, philosophy, and tools of science. SOC BEH SC

211B. The Research Critique. (3) § W, Sp. Lecture 3 hours. **Staff**

Sections with different substantive foci are devoted to the development of the individual nurse as a consumer of research endeavors emphasizing attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. FAM HLTH

211.01B. Critique of Studies in Patient-Family Teaching. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **Hallburg**

Critique of studies in patient-family teaching with the intent to develop research consumerism. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. FAM HLTH

211.02B. Critique of Studies in Maternal-Child Nursing. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **Highley, Savedra**

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

211.04B. Critique of Research in Death in Childhood. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **Waechter**

Critique of studies in death in childhood with the intent to develop research consumerism. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. FAM HLTH

211.05B. Critique of Studies in the Field of Aging. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **E. Nichols, L. Reynolds**

Critique of studies in the field of aging with the intent to develop research consumerism. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. FAM HLTH

211.11B. Critical Analysis of Clinical Interventions with Young Retarded Children. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **Pothier**

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

211.12B. Critique of Research Studies in Nonverbal Behavior. (3) § W. or Sp. Prerequisite: Nursing 211A or consent of instructor. Lecture 2 hours, Lab 3 hours. **Norbeck**

Critique of studies in nonverbal behavior with the intent to develop research consumerism. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. MENT HLTH COM

211.14. Critique of Studies in Illness Behavior. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Chafetz**

Critique of research in illness behavior, including psychiatric factors, with intent to develop research consumerism. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. MENT HLTH COM

211.21B. Critique of Cardiopulmonary Research. (3) § Sp. Prerequisite: N211A or consent of instructor. Lecture 2 hours, Lab 3 hours. **Barstow**

Critique of cardiopulmonary research with the intent to develop research consumerism. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. BIOL DYS FUNCT

211.22B. Critique of Research Studies in Quality of Patient Care. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Carrieri, Politeo, Barbaccia**

Critique of research studies in quality of patient care emphasizing the utilization of a systematic critique process, methodologies employed in evaluation programs, and identification of major problems in patient care evaluation research. BIOL DYS FUNCT

212. Research in Nursing in Biological Dysfunction. (3) § W, Sp. Prerequisite: Nursing 211A or consent of instructor. Lecture 2 hours. Lab 3 hours. **Barstow, Carrieri**

Theoretical basis for conceptualization of problems for research in care of physically

ill patients. Experimental and quasi-experimental methodology, design selection, instrument development, and data analysis discussed. Seminar groups for development of research proposals appropriate to acute-care settings. BIOL DYS FUNCT

213A. Nursing Measurements and Patient Monitoring. (2-3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-3 hours. **Beaumont**

Fundamentals of electronics, transducers, and instrumentation directly applicable to the modes of obtaining physiological data from patients. BIOL DYS FUNCT

213B. Nursing Measurements and Patient Monitoring. (2-4) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 0-6 hours. **Beaumont**

Fundamentals of electronics, transducers, and instrumentation directly applicable to the modes of obtaining physiological data from patients. BIOL DYS FUNCT

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

Course focuses on the puerperium, early maternal/paternal newborn relationships and the nurse's role in facilitating mother-infant acquaintances and attachment. Exploration of impact of premature infant or infant with defects on parenting process. Practicum available through Nursing 406. FAM HLTH

215A. Health in the Community. (3) § F, W. Prerequisite: Consent of instructor. Seminar 2 hours, Lab 3 hours. **Deasy**

Exploration of theories, concepts, and principles pertaining to the practice of community health nursing with focus on positive health factors and interaction within families, groups and communities. MENT HLTH COM

215B. Health Care Planning in Communities. (3) § F, W. Prerequisite: Consent of instructor. Seminar 2 hours, Lab 3 hours.

R.A. Terry

Exploration of analytic planning models applicable to community health services. Utilization of the community as a basis for planning and delivery of health care. Emphasis is on the role of the community health nurse in health planning. MENT HLTH COM

215C. Community Health Issues. (3) § W. or Sp. Prerequisite: Nursing 215A or 215B and consent of instructor. Seminar 2 hours, Lab 3 hours.

J. Swanson

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

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

Staff

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

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

Staff

Emphasizes survey and evaluative research methods including data identification, collection, analysis, interpretation, and reporting. Stresses these functions as essential for planning and evaluating community health programs. MENT HLTH COM

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

Zalar, Dunbar

Survey of major phenomena utilizing concepts, theories, and laboratory experiences within child-rearing: pregnant couple, enlarging family, mother-child couple, progressing to evolving multiplicity of total family interactions, and life experiences in health and illness. FAM HLTH

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

Tesler

Exploration of the 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

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

Highley

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

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

J. Ward

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

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

J. Ward

Focus is on exploration of immature physiological and pathophysiological processes and their implications for planning nursing management of the acutely ill child. Students employ the problem-oriented

framework to assess and manage theoretical patient problems. BIOL DYS FUNCT

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

Chater

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

221A. Role Development: Specialized Nursing Roles. (2-3) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab optional 0-3 hours.

Oda

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

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

Oda

Lecture/seminar focusing on the critical analysis of specialized nursing role developments. Role research approach and methodology are emphasized. Includes traditional, existing, expanded, and emerging roles relating to specialization. Optional laboratory for theory testing and systematic observation is required for research credit. MENT HLTH COM

222A. Survey of Modern Psychiatric Thought. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.

A. J. Davis, Meleis

Selected theories related to human behavior will be presented. Clinical application of, and research related to, theories will be reviewed. Lecture-discussion on interaction theories of human behavior will focus on communication and systems theory. MENT HLTH COM

222B. A Survey of Modern Psychiatric Thought. (3) § W. Lecture 3 hours.**Norbeck, Pothier**

Selected theories related to human behavior will be presented. Clinical application of, and research related to theories will be reviewed. Lecture-discussion on cognitive theories of human behavior will focus on Piaget's theory and behavioral theory. MENT HLTH COM

222C. Survey of Modern Psychiatric Thought. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **Underwood**

Selected theories related to human behavior will be presented. Clinical application of, and research related to, theories will be reviewed. Lecture-discussion on psychiatric personality theories will focus on intra-psychic and interpersonal models. MENT HLTH COM

223. Theories of Brief Psychotherapy. (2) § Sp. Seminar 2 hours. **Hookins**

Seminar focusing on selected theoretical models of brief psychotherapy. Emphasis will be placed on the theory of assessment and treatment with the brief psychotherapy model. MENT HLTH COM

224. Current Trends in Group Psychotherapy. (3) § F. Prerequisite: Nursing 244 or consent of instructor. Lecture 3 hours. **Dye**

Seminar focusing in depth on the theoretical bases and implementation of role playing, psychodrama, and gestalt psychotherapy in the group setting by the psychiatric nurse. Designed for nurses desiring advanced preparation in group psychotherapy. MENT HLTH COM

225. Research on Selected Psychiatric-Mental Health Nursing Concepts. (3) § Sp. Prerequisite: Graduate standing. Lecture 2 hours. Lab 3 hours. **A. J. Davis**

Exploration of the research conducted on selected major psychiatric-mental health nursing concepts to ascertain the state of the knowledge on which clinical practice is based. MENT HLTH COM

226. Nursing in Long-Term Illness. (3) § F, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **Hallburg**

Intensive study of problems related to long-term illness. Explorations of the inter-relationship of various cultural, psychosocial, and pathophysiological factors involved in continuing health problems. Field experience included. FAM HLTH

227. Conceptual Approaches to Functional Psychoses. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Underwood, K. Porter**

Lecture-seminar with emphasis on comparative study and analysis of selected biological, sociological and psychological theories of schizophrenia and depression. Selected research is included. Laboratory is for synthesis of theory and research findings in relationship to nursing practice. MENT HLTH COM

228. Communications — Theoretical and Philosophical. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours. **A. Davis**

The concept of communication has become one of the overlapping areas in a number of disciplines. This course examines research studies, polemic essays, and philosophical writings which have made the concepts and problems of human communication central to their investigation. MENT HLTH COM

229. Crisis Intervention. (2-4) § F, W. Lecture 2 hours, Lab 0-6 hours. **Hookins**

A seminar to discuss theories of crisis and innovative uses of crisis intervention in selected nursing areas. Emphasis is on stress as the antecedent of crisis, adaptive

and maladaptive coping as behavioral manifestations, and intervention techniques to facilitate successful resolution. MENT HLTH COM

230. Legislative Processes and Strategies. (2-4) § W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 0-6 hours. **Archer**

Exploration of legislative processes which affect professional practice. Analysis of strategies for proposal, passage, implementation, and evaluation of legislation. Examination of concepts and principles of professional lobbying, systems management of governmental relations, role of research, and expertise in policy making. BIOL DYS FUNCT

231A. Nursing Administration. (4) § W. Prerequisite: Consent of instructor. Lecture 4 hours. **Bailey**

An advanced course designed to apply major concepts in organizational theory and management to nursing administration practice. Emphasis on systems approach and relevant analytical techniques that will enable students to conceptualize and analyze problems in health care settings. BIOL DYS FUNCT

231B. Nursing Administration. (4) § Sp. Prerequisite: Nursing 231A and consent of instructor. **Bailey**

An advanced course designed to apply major concepts in organizational theory and management to nursing administration practice. Emphasis on systems approach and relevant analytical techniques that will enable students to conceptualize and analyze problems in health care settings. BIOL DYS FUNCT

232A. Dimensions of Leadership. (2-4) § F. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 0-6 hours. **Claus**

Overview of concepts, theories, principles, and research studies relative to

leadership and adjunct processes such as group dynamics and structure. Focuses on systematic analysis of decision processes related to planned change in health care services. Laboratory includes computer simulation. BIOL DYS FUNCT

232B. Dynamics of Leadership. (2-4) § W or Sp. Prerequisite: Nursing 232A or consent of instructor. Lecture 2 hours, Lab 0-6 hours. **Claus**

Analysis of interactive variables and functional relationships of leadership: characteristics of the leader, follower, and health-care environmental situations. Focuses on ideas, theories and research relative to leadership behaviors, styles, and strategies. Laboratory includes computer simulated problems. BIOL DYS FUNCT

232C. Problems in Leadership. (2-4) § Sp. Prerequisite: Nursing 232A and 232B or consent of instructor. Lecture 2 hours, Lab 0-6 hours. **Claus**

Seminar focuses on the analysis of selected problems and case studies and on creative management of human resources in health services. Application and testing of ideas, principles, models, and theories related to leadership roles, decision-making, and planned change. BIOL DYS FUNCT

233. Coping Styles of Children. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. **Dunbar**

Examination and assessment of individual coping styles in young children. Theoretical framework based upon Murphy, Lazarus, Menninger, and others. Laboratory data is used to explore nursing interventions relating to stress periods and coping patterns in children. FAM HLTH

234. The Threat of Death in Clinical Practice. (3) § F, W, or Sp. Lecture 3 hours.

Lagerquist

Seminar providing opportunity for discussion about multiple issues which come into play when adult patients face death. Discussion focuses on meaning of dying from perspective of persons undergoing the experience and/or problems of health professionals when patients are dying. BIOL DYS FUNCT

235. Process of Aging: Implications for Nursing Care. (2-4) § F, W, or Sp. Lecture 2 hours, Lab 0-6 hours. **Takano, Mirsky**

Study of the physiological, psychological, and sociological aspects of aging. Focus is on selected theories and research relevant to nursing care of the aged. Laboratory utilizes a variety of settings serving the aged. BIOL DYS FUNCT

236. Expectant Parent Group Education. (2) § F, W, Sp. Prerequisite: Consent of instructor. **Antle, May**

Theoretical sessions related to methodology and techniques of conducting expectant parent discussion groups. Exploration of content relevant to concerns of expectant parents, encompassing child-bearing and early child-rearing experiences. Concurrent practicum required. FAM HLTH

238A. Development of the Infant and Preschool Child. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours, Lab to be arranged. Enrollment limited. **Waechter**

Exploration of the major theories and research findings dealing with the physical, intellectual, and emotional development of the child from birth to school age. FAM HLTH

238B. Development in Middle Childhood. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. Enrollment limited. **Waechter**

Exploration of the relevant theories, literature, and research findings dealing with normal cognitive, emotional, and social development during the elementary school years. FAM HLTH

238C. Adolescent Development. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 3 hours. Enrollment limited.

Waechter

Exploration of relevant theory, literature, and research findings dealing with normal development during the adolescent period. FAM HLTH

239. Adult Development: Young and Middle Adulthood. (3) § W. Prerequisite: Graduate standing, Child Development, and consent of instructor. Lecture 2 hours, Lab 3 hours.

Kayser-Jones

This seminar, using an anthropological, sociological, and psychological perspective, will cover developmental theory and research from young adulthood through the middle adult years. Current issues in young and middle adulthood will be discussed with an emphasis on implications for health care. FAM HLTH

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

Study of cardiopulmonary nursing problems and their amelioration by drugs affecting the autonomic nervous system and cardio-respiratory-renal core systems. Review of relevant anatomy, physiology, and drug action included. BIOL DYS FUNCT

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

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

243.01. Nursing Management of Metabolic Alteration in Surgical Patients. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. **Stotts**

Exploration and testing of theories, concepts, and principles underlying metabolic alterations in the preoperative and postoperative period. Emphasis is on the physiological and pathophysiological changes associated with surgery in adults and the nurse's role in promoting or inhibiting those alterations. BIOL DYS FUNCT

243.02. Nursing Management of the Surgical Patient in the Preoperative and Postoperative Period. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Stotts, L. Friesen

Application and testing of theories, concepts, and principles related to physiological and psychological adaptations in the preoperative and postoperative period. Emphasis is on nursing management of the high-risk patient with selected maladaptations. BIOL DYS FUNCT

243.03. Nursing Management of Patients with Surgery on Selected Body Systems. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.

Friesen, Stotts

This seminar focuses on nursing management of patients with disequilibrium secondary to surgery. Each student will explore the physiology and pathophysiology of a selected body system, frequently used surgical treatments, and the theoretical bases of nursing management. BIOL DYS FUNCT

244. Theories of Group Psychotherapy. (3) § W. Sp. Prerequisite: Nursing 112 or consent of instructor. Lecture 2 hours. Lab 3 hours.

Dye

Theories of group psychotherapy based on psychoanalytic, interpersonal, and communication theories pertinent to practice of group psychotherapy by nurses. Exploration of differing models of therapy, basic principles and techniques of group therapy, and role of psychiatric nurse as leader. MENT HLTH COM

246. Deterrents to Parenting. (3) § F. Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Tesler

Exploration of evolving mother-child relationships, adaptive tasks, and environmental and interpersonal situations interrupting healthy development of mothering. Implications for nurturing and nursing roles. BIOL DYS FUNCT

247.01. Issues and Trends in the Health Care of the Aged. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Francis

An exploration of the interrelationships of various issues, trends, and theories related to the aged. A discussion of the nurse's role in the planning and delivery of health care to the aged, both sick and well. FAM HLTH

247.02. Legislative Issues and Political Aspects of Aging in Long-Term Health Care. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Francis

Investigation of legislative and political issues of long-term health care and the implications for nursing practice. FAM HLTH

248. Group Independent Study. (1-6) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-6 hours.

Staff

Groups of two or more collaborate in clinical investigations and other studies of special problems in nursing and health sciences under the direction of faculty. Students may select areas related to their long-term interests and future research or clinical program. BIOL DYS FUNCT

249. Independent Study. (1-5) § F, W, Sp. Prerequisite: Consent of instructor.

Staff

Individual study with emphasis on special problems in nursing. Students may select areas for study which are related to their area of interest or future goals. BIOL DYS FUNCT

250. Research. (1-8) § F, W, Sp. Prerequisite: Admission to doctoral study and consent of instructor.

Staff

BIOL DYS FUNCT

251. Professional Nurses in Bureaucracies. (3-4) § W. Prerequisite: Three months work experience as RN or consent of instructor. Lecture 3 hours. Lab 0-3 hours.

M. Kramer

Exploration and analysis of research and issues of professionalism and bureaucracy: evolution, process, and relationship to goal achievement. Course focuses on problems and conflicts encountered by professional nurses in bureaucracies and research related to identification and amelioration of these conflicts. SOC BEH SC

252. Constructive Conflict Resolution in Nursing Practice. (3) § Sp. Lecture 2 hours. Lab 3 hours.

M. Kramer

Course focuses on the theory of and provides practice in solving typical interpersonal conflicts in nursing. Students identify actual or anticipated conflicts in administrative, teaching, specialist, or practitioner roles, and hypothesize and test out constructive conflict resolution strategies. SOC BEH SC

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

Dye

A comprehensive analysis of research design, theory, concepts, and methodology applied to the group process. Variables such as group interaction, performance characteristics, and group structure will be examined with particular emphasis on mensuration and experimental design. MENT HLTH COM

254.01. Maternal Physiology and Clinical Assessment. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2-3 hours. Lab 0-3 hours.

Hutkins

Exploration of normal physiological changes occurring during pregnancy and

childbearing. Emphasis will be on reproductive systems, endocrine and neuroendocrine systems, and cardiopulmonary systems. Clinical experience to relate physiologic theory with clinical observation. BIOL DYS FUNCT

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

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

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

Ree

Exploration of pathophysiological events affecting the maternal-fetal unit in high-risk pregnancies. Clinical experience will be provided for integration of theory. BIOL DYS FUNCT

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

In-depth theory exploration of the physiological and pathophysiological events affecting the normal and high-risk newborn. Current medical and nursing research findings will be incorporated. BIOL DYS FUNCT

254.05. Developmental Pharmacology. (2-3) § Sp. Prerequisite: Nursing 254.01 and 254.02. Lecture 2 hours. Seminar optional 1 hour. **Dulock, Burkhalter, Ree**

Course provides theoretical concepts of the interrelationships of drugs, and their pharmacokinetic effect on the maternal-placental-fetal unit and on the developing newborn. Specific drugs, their clinical considerations, and the nurse's role in drug therapy will be incorporated. BIOL DYS FUNCT

255.01. Child Health Assessment. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Durand**

Presentation of theoretical principles of child health assessment. Areas to be covered include exploration of methodologies of data-gathering and data-analysis essential to comprehensive health assessment of infants and children. Laboratory for testing and integration of theory. FAM HLTH

255.02. Child Health Maintenance. (2-3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-3 hours. **Durand**

Course provides exploration of theories, concepts and knowledge for comprehensive child health maintenance, encompassing prevention and promotion. Emphasis on parents as participants in assessment, decision-making, and management of common health problems and normal developmental stresses in infancy and childhood. FAM HLTH

255.03. Management of Common Pediatric Illness. (4) § Sp. Prerequisite: Nursing 255.01 and 255.02. Consent of instructor. Lecture 2 hours, Seminar 2 hours.

J. Phillips

Covers theoretical basis of physiological and psychological principles necessary for understanding management of common pediatric illnesses. Provides format for integrating material with clinical findings, utilizing developmental and communication concepts in assessment and management. Collaborative roles between nurse, family, and physician emphasized. FAM HLTH

256. Therapeutic Use of Play. (2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Hardgrove**

Practical experience using play materials, techniques, and methods, in relating to young children to increase the graduate nursing student's observational skills and afford opportunities to test and develop theories of child development. Practicum optional. FAM HLTH

257A. Children at Risk. (3) § W. Prerequisite: Nursing 238A, 238B, or 238C or equivalent and/or consent of instructor. Lecture 2 hours. Lab 3 hours. **Millor**

Introduction to assessment of temperament and constitutional factors in child development and early recognition of vulnerability for developmental deviations; assessment of child-rearing styles and environmental impact on quality of life. Emphasis on designing a conceptual framework for individual assessments. FAM HLTH

257B. Children at Risk. (3) § Sp. Prerequisite: Nursing 257A. Lecture 2 hours. Lab 3 hours.

Millor

Exploration of health problems related to children at risk: developmental deviations, handicapping conditions, potential parenting problems, child abuse, environmental and cultural influences upon children. Emphasis on developing a conceptual framework for working with children in variety of settings. FAM HLTH

258. Intrapartal Nursing. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Mercer**

Exploration of theories of pain perception and clinical course of normal labor and delivery. Social, cultural, and psychological factors influencing the family's approach to childbirth are studied concurrently with clinical data. Practicum available through Nursing 406. FAM HLTH

259. Women's Health Care. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **Neeson**

Course provides a broad perspective of health care for women. Content includes common health problems and current approaches in screening and management. General political issues in health care for women of all ages will be included. FAM HLTH

259.02. Women's Health: Theories and Management. (1-4) § W. Prerequisite: Consent of instructor. Lecture 1-4 hours.

Neeson

Exploration of theories, concepts, and knowledge necessary to maintain and promote women's reproductive health. Emphasis on application of current research; decision-making and management of pregnancy, the interconceptional period, and the climacteric, including collaboration with health team members. FAM HLTH

259.03. Special Problems in Women's Health: Theories, Assessment, and Management. (1-4) § Sp. Prerequisite: Consent of instructor. Lecture 1-4 hours.

Neeson

Theory and management of bio-psychosocial deviations from normal in women before and during pregnancy, interconceptional period, and climacteric. Emphasis placed on critical analysis of research in metabolic, infectious, and functional disorders including collaborative management of women manifesting these disorders. FAM HLTH

261. Introduction to Computer-based Instructional Systems in Nursing Education and Practice. (2-4) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours.

Claus, Kamp, Veatch, Gorton

Focus is on computers to aid instruction in nursing education and practice. Concepts, principles, and methods of computer-based instruction will be discussed. Laboratory provides opportunities to design and write interactive instructional programs or to evaluate use of computerized systems. BIOL DYS FUNCT

262. Conceptualization in Psychiatric Nursing. (3) § F. Lecture 2 hours. Lab 3 hours.

Underwood

Seminar focusing on psychiatric personality theories in psychiatric nursing conceptual framework for clinical practice and

research. Major emphasis is on use of theory by psychiatric nurses in developing conceptualizations for practice and research. Students are expected to develop beginning conceptualizations. MENT HLTH COM

263A. Nursing Evaluations of the Long Term Client. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours.

Davidow

Selected frameworks for assessment, analysis of data and presentation of diagnoses are explored as related to long-term-care clients in institutional and community settings. Data bases and methodologies for collecting client information are studied. Concurrent four unit practicum required. FAM HLTH

263B. Restorative Nursing with Long Term Care Clients. (2) § Sp. Prerequisite: Nursing 263A or consent of instructor. Lecture 2 hours.

Davidow

Examination of restorative nursing with long-term clients in various institutional and community settings. Exploration of methods of implementation of prescribed nursing care and evaluation outcomes toward client goal achievement and independence. Concurrent practicum required. FAM HLTH

263C. Quality Assurance in Health Care. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Davidow

Focus is on dimensions of quality assurance. Impact of value judgments and components of quality assurance such as peer and utilization review, professional standards, consumer and institutional control, and vested interests, examined on the basis of outcomes in long-term care. FAM HLTH

264. Social Context of Nursing Practice. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

E. Nichols

Focus is on the exploration of social processes and how they impinge on nursing practice. Interventions based on empirical data are considered. FAM HLTH

265A. Research Methods in Program Planning and Evaluation. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Archer

Exploration of research approaches in program planning and evaluation, emphasizing conceptualizing the evaluation problem, developing a research strategy, and implementing the evaluation. Focus is on problem definition and instrument construction. MENT HLTH COM

265B. Research Methods in Program Planning and Evaluation. (3) § Sp. Prerequisite: Nursing 265A and consent of instructor. Lecture 2 hours. Lab 3 hours.

Archer

Exploration of research approaches to program planning and evaluation, emphasizing conceptualizing the evaluation problem, developing a research strategy, and implementing the evaluation. Focus is on data collection, analysis, and reporting. MENT HLTH COM

266A. Research Conceptualization. (3-5) § W. Prerequisite: Nursing 211A or consent of instructor. Lecture 2 hours. Lab 3-9 hours.

M. Kramer

Discussion and practice in research problem formulation and design selection for producers of research. Core classes and small group sessions are organized around students' interests. SOC BEH SC

266B. Research Implementation. (3-5) § Sp. Prerequisite: Nursing 266A. Lecture 2 hours. Lab 3-9 hours.

M. Kramer

Data collection, analysis, and reporting of a research project, or of some aspect of a research project, such as tool construction, validity, or reliability studies. SOC BEH SC

267. Ethical Dilemmas and Nursing Practice. (2) § F. W. Prerequisite: Graduate standing. Lecture 2 hours.

A. J. Davis

Exploration of selected ethical theories and dilemmas in health care and nursing practice. Focus is on selected case studies depicting ethical dilemmas in nursing practice, nursing research, and health policy. MENT HLTH COM

268. Current Professional Issues in Nursing. (2-4) § F, W. Prerequisite: Admission to the DNS program. Lecture 2-4 hours. **Hornof**

Presentation and discussion of current issues and trends in nursing and the health fields. MENT HLTH COM

269. Historical and Contemporary Issues in Nursing. (2-3) § W. Lecture 2 hours. Optional seminar 1 hour. **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

270. Health Assessment of the Adult. (4) § F. Prerequisite: Concurrent enrollment in Nursing 406. Consent of instructor. Lecture 4 hours. **H. Rutledge**

Course presents theoretical framework for complete assessment of adults in primary care. Introduces systematic approach for collecting, interpreting clinical data derived from history and physical examination. Emphasizes pathophysiological bases of signs, symptoms. Incorporates framework for health maintenance of adults. FAM HLTH

271A. Clinical Management of Common Adult Problems. (4) § F. Prerequisite: Nursing 270 or consent of instructor. Concurrent enrollment in Nursing 406. Lecture 4 hours. **Resnik**

Course introduces concepts essential in the management of common health prob-

lems of adults in primary care. Emphasizes the integration of psychosocial and pathophysiological aspects of illness. Focus is on process of clinical decision-making through case method approach utilizing relevant research. FAM HLTH

271B. Clinical Management of Common Adult Problems. (2) § W. Prerequisite: Nursing 271A or consent of instructor. Concurrent enrollment in Nursing 406. Lecture 2 hours. **Resnik**

Course introduces concepts essential in the management of common health problems of adults in primary care. Emphasizes the integration of psychosocial and pathophysiological aspects of illness. Focus is on process of clinical decision-making through case method approach. FAM HLTH

272. Prospective Health Care of Adults. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **Rosenaur**

Course introduces principles of health maintenance care for adults including health risk appraisal, problem identification and management. Focus is on health risks related to age, sex, health habits, history of individual and family illness, and life stress. FAM HLTH

275.01. Cardiopulmonary-Renal Nursing: A Physiological Basis. (6) § F. Lecture 6 hours. **E. Clarke**

A study of cardiopulmonary and renal theories applicable to nursing practice. Emphasis will be on selected physiology and pathophysiology that support selected nursing interventions. BIOL DYS FUNCT

275.02. Cardiopulmonary-Renal Nursing: Acute Interventions. (3) § Sp. Prerequisite: Nursing 241.03 and 275.01. Lecture 3 hours. **Stotts**

Investigation of the theoretical basis of selected nursing interventions commonly used on patients with acute cardiopulmonary and renal dysfunction. Therapeutic and

iatrogenic aspects of intervention will be explored. Recent research will form the basis for discussion. BIOL DYS FUNCT

275.03. Cardiopulmonary Nursing: Rehabilitation. (3) § Sp. Prerequisite: Nursing 241.03 or consent of instructor. Lecture 2 hours. Lab 3 hours. **Barstow**

Theoretical basis for rehabilitation of patients in acute care setting with cardiopulmonary physical illness. Exploration of related concepts such as conservation/mobilization of energy. Relevant research will be included. BIOL DYS FUNCT

277. Research on Problems in the Management of Illness and the Delivery of Health Services. (3) § F, W, Sp. Prerequisite: Nursing 211A, 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. **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. FAM HLTH

278. Overview of Nursing Research: History, Philosophy, Methods. (2) § Sp. Prerequisite: Graduate standing or consent of instructor. Lecture 2 hours. **Gortner**

Survey of the history and development of this scientific area in the United States, addressing current issues of definition and scope, credibility, ethics, politics, and methods. FAM HLTH

280. Sexual Counseling. (3) § W. Prerequisite: Nursing 189 or equivalent, and consent of instructor. Lecture 2 hours. Lab 3 hours. Enrollment limited. **Ayres**

Theories, concepts, research, and techniques of sexual counseling with individuals and groups. A conceptual model

will provide the direction for assessment, intervention, and evaluation of common sexual concerns and dysfunctions. Optional practicum available. FAM HLTH

281. Sexuality and Illness. (3) § Sp. Prerequisite: Nursing 189 or equivalent, and consent of instructor. Lecture 2 hours. Lab 3 hours. **Ayres**

Physical, emotional, and interpersonal implications of short- and long-term illness on sexuality. Course includes review of research findings, analysis of relevant literature, and application of nursing process to selected medical/surgical conditions in sexuality. Optional practicum available. FAM HLTH

282. Sex Education. (3) § Sp. Prerequisite: Nursing 189 or equivalent, and consent of instructor. Lecture 2 hours. Lab 3 hours. **Zalar**

Review of theories of teaching/learning, curriculum models, and needs assessment of a target population will prepare students to develop methods, strategies, and materials for sex education of a population of choice. FAM HLTH

290.01. Conceptual Approaches to Family Study. (2-4) § F. Prerequisite: Enrollment in the DNS program. Lecture 2 hours, Lab 0-6 hours. **Savedra, Mercer**

Comparative study and critical analysis of classical theories applicable to family interaction with emphasis on interactional and structural-functional. Seminar focuses on theoretical applications to nursing problems in the maintenance of family health. FAM HLTH

290.02. Conceptual Approaches to Family Study. (2-4) § W. Prerequisite: Nursing 290.01 and/or consent of instructors. Enrollment in the DNS program. Lecture 2 hours, Lab 0-6 hours. **Savedra, Mercer**

Comparative study and critical analysis of classical theories applicable to family in-

teraction with emphasis on the developmental, psychoanalytic and institutional. Seminar focuses on theoretical applications to nursing problems in the maintenance of family health. FAM HLTH

290.03. Conceptual Approaches to Family Study. (2-4) § Sp. Prerequisite: Nursing 290.01, 290.02 and/or consent of instructor. Enrollment in the DNS program. Lecture 2 hours, Lab 0-6 hours. **Savedra, Mercer**

Individual development of an approach or model for study of a specific problem in family health nursing. Seminar focuses on critique of models generated by students and their applicability to the research problem. FAM HLTH

298. Thesis or Comprehensive Examination. (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. BIOL DYS FUNCT

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 (DNS) degree. BIOL DYS FUNCT

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. FAM HLTH

402. Administration 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. FAM HLTH

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. FAM HLTH

404. Clinical 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. FAM HLTH

404.06A. Clinical Residency-Pediatric Nurse Associate. (4) W, SS1. Prerequisite: Consent of instructor. Lab 12 hours. **Durand**

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. Clinical Residency-Pediatric Nurse Associate. (4) F, Sp. Prerequisite: Nursing 404.06A and consent of instructor. Lab 12 hours. **Durand**

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 Health and Community 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 mental health and community nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills. MENT HLTH COM

406. Practicum in Family Health Care Nursing. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours. **Staff**

Opportunity to apply theory in clinical practice to further develop skills and to extend clinical expertise in selected aspects of family health care nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills. 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. BIOL DYS FUNCT

409. Continuing Education Residency. (6-12) F, W, Sp. Prerequisite: Nursing 201 or equivalent, and consent of instructor. Lab 18-36 hours. **Staff**

Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor. Focus is on development of the Continuing Education Specialist role in meeting continuing education needs of registered nurses. MENT HLTH COM

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. MENT HLTH COM

Nutrition¹⁷

130B-C. Human Nutrition. (1-1) W, Sp. Lecture 1 hour. **Silverstein (W), Eckhaus (Sp.)**

An introduction to the basic principles of human nutrition. Subject material is related to the maintenance of normal nutrition throughout one's life span, and emphasis is on normal nutrition and its preventive role in maintaining general health, specifically oral health. GEN DENT

132. Principles of Diet as Therapy in Nursing Interventions. (2) W, Sp. Prerequisite: Nursing 110 or consent of instructor. **Gutierrez**

Concepts of dietary modification as required in the prevention and treatment of major disease entities. Emphasis is on clinical approaches useful in nursing practice. MENT HLTH COM

160. Nutrition for the Dental Hygienist. (2) W. Lecture 2 hours. **P. Morgan**

Review of biochemical principles of nutrition related to development and maintenance of oral tissue, and the interrelationship of food stuffs. Emphasis will be on practical application of nutritional assessment and counseling for dietary/behavioral change. PERIODONT

180. Nutrition Counseling for Preventive Dentistry. (1) Sp. Prerequisite: Second year standing in dental hygiene. Nutrition 130B. Lecture 1 hour. Lab 1 hour. Enrollment limited. **Talbot**

Supervised practicum in nutrition counseling with dental clinic patients. Students will apply techniques of diet analysis, preventive program planning, and patient counseling. PERIODONT

181. Nutrition Counseling for Families. (3) § F. Prerequisite: Nursing 114 and/or consent of instructor. Lecture 2 hours, Lab 3 hours. **Gutierrez, Hoare**

Course provides theory and practice in the interpretation of current concepts and principles of nutrition counseling with an emphasis on cultural nutrition. FAM HLTH

Obstetrics, Gynecology and Reproductive Sciences

110. Core Clerkship in Obstetrics and Gynecology. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. **Jaffe and Staff**

Basic principles and fundamental techniques in obstetrics and gynecology are discussed in a series of seminars, including the psychiatric aspects of obstetrics and gynecology, case discussions, and teaching clinics. Students gain practical experience in clinics, wards, delivery room, and operating room under direct supervision. OB GYN RS

140.01. Senior Clerkship in Obstetrics and Gynecology at C. (1½ per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110. **G. Webb**

Students will have responsibilities of full-time acting residents on both the obstetrical and gynecological services. OB GYN RS

140.02. Advanced Clinical Clerkships. (1½ per week) Su, F, W, Sp. Prerequisites: Obstetrics and Gynecology 110, consent of instructor, and approval of department at off-campus hospital. **Braga, R. Glass**

Advanced clinical clerkship. Senior clerkships in both inpatient and outpatient obstetrics and gynecology are available at the following and other various hospitals by arrangement: L, MZ, SJ, KH, VMC, NRMC. OB GYN RS

140.04. Ambulatory Obstetrics and Gynecology. (1½ per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110. Open to UCSF students only. **Margolis, D. Snyder**

Daily participation in the general and sub-specialty clinics of obstetrics and gynecology. OB GYN RS

¹⁷See Epidemiology and International Health 182.

140.06. Gynecologic Clerkship at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110. or equivalent. **R. Sweet and Staff**

Course is individually structured for each student by the instructor, with emphasis on areas of interest and need for in-depth exposure to gynecology. OB GYN R S

140.07. Gynecologic Clerkship at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110. or equivalent. **Braga, R. Glass**

The clerk functions in the role of an acting resident on the gynecology service. Responsibilities are predominantly in the inpatient service and will include both surgical and non-surgical aspects of gynecologic oncology, endocrinology, infertility, and general gynecology. OB GYN R S

140.08. Preceptorship in Obstetrics, Gynecology and Reproductive Sciences. (1½ per week) Su, F, W, Sp. Prerequisites: Obstetrics and Gynecology 110 or equivalent, and consent of instructor and chairperson of the department. **Staff**

Clinical experience in a subspecialty area under the direction of a member of the faculty. OB GYN R S

150.01. Research in Obstetrics, Gynecology and Reproductive Sciences. (1½ 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

198. Supervised Study in Obstetrics, Gynecology and Reproductive Sciences. (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 in Obstetrics, Gynecology, and Reproductive Sciences. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor. **Staff**

A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. OB GYN R S

222. Reproductive Endocrinology Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **Kuhn**

Seminar presentations in areas of current interest in reproductive endocrinology by guest speakers and members of the Reproductive Endocrinology Center. Students will be required to submit a term paper. Course may be repeated for credit. OB GYN R S

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

Lectures and assigned readings on the reproductive endocrinology of the male and female. Topics include structure, function and regulation of the hypothalamic, pituitary, and gonadal hormones, with special emphasis on the human. OB GYN R S

231. Hormone Receptor Binding. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **J. Roberts**

An in-depth assessment of the characterization of hormone receptor interactions by ligand binding methods. Lectures, assigned readings, and problems will focus on theoretical and practical aspects of techniques and data analysis. OB GYN R S

232. Morphological Basis of Neuroendocrinology. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours. **R. Weiner**

Lectures and assigned readings on the morphology of the brain-hypothalamic-pituitary axis at the gross, light, and ultrastructural levels. Topics will include pituitary morphology, hyposeal-portal circulation, localization and cytoarchitecture of neuro-

secretory neurons, and hypothalamic and extrahypothalamic neural pathways. OB GYN R S

233. Ultrastructural Aspects of Reproductive Biology. (2) § Sp. Prerequisite: Consent of instructor. Course is intended for advanced graduate students and postdoctoral fellows. Lecture 2 hours. **Connell, Jaffe**

The ultrastructural characteristics of reproductive organs, gametes and embryos will be presented by guest lecturers and members of the Reproductive Endocrinology Center. Special emphasis will be placed on the evaluation of current methods and literature in the field. OB GYN R S

234. Theory and Techniques of Electron Microscopy. (3) § Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 6 hours. **Connell**

Course is designed to develop skills for using transmission electron microscopy in research. The effects of anesthesia, fixation, and such on tissue will be discussed. Students will be expected to carry out the process from tissue to electron micrograph. OB GYN R S

400. Staff Conferences. (1) Su, F, W, Sp. **Jaffe and Staff**

Conferences comprised of formal discussions by staff, faculty, and visiting lecturers. OB GYN R S

401. Surgical Pathology Seminar. (1) Su, F, W, Sp. **E. Hill, Braga, H. Jones**

Seminar includes the presentation of pathologic material from the obstetric and gynecologic services with formal instruction and discussions. OB GYN R S

402. House Staff Seminars. (1) Su, F, W, Sp. **Laros**

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 and 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

Occlusion

120. Applied Dental Morphology and Physiology of Occlusion. (1) Sp. Prerequisite: Concurrent enrollment in Oral Diagnosis 129. Lecture 1 hour. **Steffanou**

A conjoint lecture and discussion series on the relationship of occlusion to the clinical phases of dentistry. RESTOR DENT

180. Principles of Occlusion. (1) F. Lecture 1 hour. Enrollment limited. **Pavone**

The etiology of functional disturbances, analysis of occlusal relationships of the opposing arches, and a rationale of therapy are presented. The principles of occlusion as they apply primarily to adult clinical dentistry are also discussed. RESTOR DENT

Operative Dentistry

109. Clinical Operative Dentistry. (0-11) F, W, Sp. Prerequisite: Third year standing in operative dentistry. Clinic variable.

Schuchard and Staff

Clinical instruction. RESTOR DENT

115A-B-C. Operative Techniques. (0-2, 0-2, 1½) F, W, Sp. Lecture 1 hour for 5 weeks Sp., Lab 3 hours F, W, Sp. **E. Watkins**

Beginning techniques in operative dentistry. Five hours of lecture on the theory and principles of cavity design and preparation are included in the spring quarter. RESTOR DENT

125A-B. Operative Techniques. (0-6, 0-6) F, W. Prerequisite: Operative Dentistry 115A-B-C. Lecture 1 hour. Lab 6 hours. **E. Watkins**

Continuing techniques in operative dentistry. One hour of lecture each week accompanies the laboratory work; lectures reinforce principles taught in the laboratory. Clinic rotation is included. RESTOR DENT

130A-B-C. Operative Theory. (2-1-1) F, W, Sp. Prerequisite: Operative Dentistry 115A-B-C and 125A-B, and Endodontics 125. Lecture 3 hours F; 1 hour W, Sp. **Schuchard**

This course must be taken concurrently with Operative Dentistry 109. RESTOR DENT

139. Clinical Operative Dentistry. (0-4) F, W, Sp. Prerequisites: Concurrent enrollment in Operative Dentistry 130A-B-C. Clinic variable. **Schuchard**

Clinical instruction for third-year students. Students are evaluated in their daily treatment. Requirement for demonstrating clinical proficiency is earning four units of clinical credit with a reasonable distribution among nine basic restorative procedures. Two examinations demonstrating satisfactory clinical competence are required for assignment of units. RESTOR DENT

149. Clinical Operative Dentistry. (0-2-2-3) SS, F, W, Sp. Prerequisite: Operative Dentistry 139. Clinic variable. **Schuchard**

Clinical instruction for fourth-year students. Students are evaluated on their daily treatment and clinical examinations. Seven units of clinical credit are required with reasonable distribution among the nine basic restorative procedures. Satisfactory completion of the course requires five clinical examinations and two certificate examinations. RESTOR DENT

180. Advanced Operative Dentistry Theory. (1) F. Prerequisite: Operative Dentistry 130A-B-C. Lecture 1 hour.

Schuchard and Staff

Lectures and televised demonstrations covering quadrant dentistry, washed field technics, complex restorations, analysis of related research, and clinical applications of the various restorative procedures. RESTOR DENT

180.01. Advanced Operative Dentistry Theory. (1) W. Prerequisite: Operative Dentistry 180. Lecture 1 hour.

Schuchard and Staff

Continuation of Operative Dentistry 180. RESTOR DENT

180.02. Advanced Operative Dentistry Theory. (1) Sp. Prerequisite: Operative Dentistry 180.01. Lecture 1 hour.

Schuchard and Staff

Continuation of Operative Dentistry 180.01. Organization of the material is planned in relation to progress of students enrolling in the 180 series. RESTOR DENT

189. Direct Gold Restorative Procedures. (1) F, W, Sp. Prerequisite: Open to fourth year students with approval of the chairman of the division. Clinic 3-6 hours. Enrollment limited. **Schuchard**

Techniques and procedures for Class III restorations using the conservative approach, as well as wedge and matrix. Work also will be done on Class V direct gold restorations. Students learn to use various materials including fibrous gold, goldent, and electroloy. RESTOR DENT

189.01. Advanced Clinical Operative Dentistry. (0-25) F, W, Sp. Prerequisite: All previous courses in operative dentistry curriculum sequence. Clinic variable.

Schuchard and Staff

Continuation of clinical experience at the level of Operative Dentistry 109. RESTOR DENT

189.02. Advanced Clinical Operative Dentistry. (0-4) Sp. Prerequisite: Approval of the chairman of the division. Clinic 0-12 hours.

Schuchard and Staff

Advanced instruction in the field of clinical operative dentistry, utilizing procedures different from those presented at the level of Operative Dentistry 109, such as quadrants and plastics. RESTOR DENT

199. Laboratory Project in Operative Dentistry. (1-5) F, W, Sp. Prerequisite: Approval of the Dean. **Schuchard and Staff**

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

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 includes lectures and clinical experience in the diagnosis and care of eye diseases.

140.01. General Clinical Ophthalmology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **O'Donnell**

Clinical observations of patients in wards and surgery. Seminars on ophthalmic pathology, microbiology, and optics at UC. OPTHALMOL

140.02. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **S. Kramer and Staff**

Clinical clerkship in approved hospitals by special arrangement and approval by the Dean and the chairperson of the department. OPTHALMOL

140.03. Clinical Clerkship at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **Goodner and Staff**

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

140.04. Clinical Clerkship at L. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **Metz**

Clinical observation of patients in the clinics, ward and surgery at L. OPTHALMOL

150.01. Ophthalmic Pathology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **J.B. Crawford**

Seminars include gross and microscopic ophthalmic pathology with clinical correlation of cases from the Eye Clinic, wards, and other hospitals. OPTHALMOL

150.02. Research in Ophthalmology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor and chairman of the department. **S. Kramer**

A research project under the direction of a member of the faculty carried out in the Department of Ophthalmology. OPTHALMOL

198. Supervised Study in Ophthalmology. (1-5) F, W, Sp. **S. Kramer**

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

199. Laboratory Project in Ophthalmology. (1-5) F, W, Sp. **S. Kramer**

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

400. Ophthalmology Staff Conference. (1) F, W, Sp. **S. Kramer**

Residents prepare and present diagnostic and therapeutic problem cases. Discussion by faculty and visitors follows. Residents also present papers on various aspects of medicine and ophthalmology which are discussed by faculty members. OPTHALMOL

401. Conferences at SFGH and VA. (1) F, W, Sp. Prerequisite: First and third year residents. **S. Kramer**

Conferences include grand rounds and case presentations of hospital patients, review of recent literature in ophthalmology, and assigned reading with required reports. OPTHALMOL

402. Specialty Seminars at SFGH and VA. (6) F, W, Sp. **S. Kramer**

Seminars include didactic lectures in practical work covering pathology, neuro-ophthalmology, uveitis, physiological optics, refraction, ocular motility, glaucoma, and microbiology. OPTHALMOL

403. Basic Ophthalmologic Science Course. (6) Su. Required for first year residents. **S. Kramer**

Didactic lectures and demonstrations cover the basic sciences as applied to ophthalmology. These include anatomy, histology, biochemistry, physiology, and pharmacology. OPTHALMOL

450. Clinical Ophthalmology at UC. (1½ per week) Su, F, W, Sp. **Kimura**

Residents, under supervision, are responsible for patients in the Eye Clinic. First year residents assist in eye surgery and the Eye Bank program. Specialty clinics include external diseases, extraocular muscles, medical ophthalmology, ophthalmoscopy, refraction, cataract, glaucoma, neuro-ophthalmology, plastic surgery, and tumor. OPTHALMOL

451. Clinical Ophthalmology. (1½ per week) Su, F, W, Sp. **Minas**

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. OPTHALMOL

454. Clinical Ophthalmology. (1½ per week) Su, F, W, Sp. **UC Beard, CHMC E. Stern**

Residents, under supervision, are responsible for patient care including diagnostic studies and treatment of medical eye care, diagnosis, surgery, and follow-up treatment of surgical eye cases. Residents consult for other hospital services. OPTHALMOL

455. Fourth Year Residency. (1½ 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 chairman of the department and the Dean. OPTHALMOL

457. Clinical Ophthalmology. (1½ per week) Su, F, W, Sp. **PH A. Schwartz,**

P Hilton, STM R.N. Shaffer, Schatz, CHS, SRM Rathbun, RDMC T. Moore

Residents or fellows, under supervision, are responsible for patient care, including diagnostic studies and treatment of medical-eye care, diagnosis, surgery, and follow-up treatment of surgical-eye cases. OPTHALMOL

490. Clinical Ophthalmology at SFGH. (1½ per week) Su, F, W, Sp. **Goodner**

Residents, under supervision of the attending staff, are responsible for patient care on wards and in the follow-up clinic, including diagnostic studies and consultation. This rotation is combined with patient-care assignments in the Otolaryngology Service. OPTHALMOL

Oral Diagnosis

109. Clinical Oral Diagnosis. (0-1) F, W, Sp. Prerequisite: Third year standing. Clinic 30 hours. **Braly and Staff**

Credit is assigned on a point basis for independent case work-ups and case presentations. GEN DENT

109.01. Oral Diagnosis and Roentgenology Rotation. (0-2) F, W, Sp. Prerequisite: Third year standing. Clinic and Seminar Block rotation 60 hours. **Braly and Staff**

Clinical experience and small group instruction are provided in diagnosis and treatment planning, emergency dental care, clinical photography, and roentgenology. GEN DENT

109.02. Dental Emergency Clinic. (0-1) F, W, Sp. Prerequisite: Oral Diagnosis 109.01. Clinic rotation 30 hours. **G. Hall**

Experience in the provision of dental emergency care in the UC Clinics and in the initial evaluation of persons seeking dental care. Instruction is provided on an individual and small group basis. GEN DENT

116A-B-C. Clinical Dentistry. (0-4, 0-4, 1½) F, W, Sp. Lecture 1 hour F, W; Clinic 3 hours F, W; 4 hours Sp. **Braly**

An introduction to concepts of dental health and disease and a recognition of these through a multidisciplinary clinical orientation program. GEN DENT

129. Diagnosis and Treatment Planning. (2) Sp. Prerequisite: Oral Diagnosis 116A-B-C. Clinic and Seminar 6 hours. **Maxwell**

Small group instruction is provided in comprehensive case work-up of dental patients. Student completes a case history, clinical examination, studies cast analysis, and diagnosis and treatment plan, meeting the patient's total dental needs. GEN DENT

189.01. Continuation of Clinical Oral Diagnosis. (0-9) F, W, Sp. Prerequisite: Oral Diagnosis 109. Clinic variable. **Braly**

Continuation of clinical experience at the level of Oral Diagnosis 109. GEN DENT

Oral Medicine and Hospital Dentistry

109.01. Oral Biology. (0-2) F, W, Sp. Prerequisite: Oral Medicine and Hospital Dentistry 120, 126, and 127. Lecture and Clinic 2 hours. **Chinn, Caswell and Staff**

Group rotation through two five-week sections: clinical diagnosis — patient presentation entailing history-taking, examination, diagnosis, treatment, and follow-up; and medicine — introduction to internal medicine and physical diagnosis. ORAL MED

120. Oral Medicine. (3) Sp. Prerequisite: Oral Medicine and Hospital Dentistry 126 and 127. Lecture 3 hours. **T. E. Daniels**

Handling of patients is introduced by emphasizing history-taking, differential diagnosis, medical implications, clinical pathology laboratory in dental practice, and fundamentals of treatment. Classification, etiology, pathogenesis, diagnosis, and treatment of some benign lesions occurring in the oral cavity are covered. ORAL MED

126. Oral Biology. (5) F. Prerequisite: Anatomy 118. Lecture 4 hours, Lab 4 hours. **Christie and Staff**

Introduction to oral biology correlating morphology, chemistry, function of dental and paradental tissues. Topics include head and neck embryology, enamel, dentin, cementum, pulp and pulpal disease, dental caries, dental anomalies, tooth eruption, periodontium and periodontal disease, and oral mucous membranes. ORAL MED

127. Introduction to Oral Pathology. (3) Prerequisite: Oral Medicine and Hospital Dentistry 126. W. Lecture 2 hours. Lab 3 hours. **Greenspan, T. E. Daniels, Merrell**

Course correlates clinical oral pathology with histologic changes. Emphasis is placed on the microscopic and laboratory interpretation of cellular, tissue, and chemical alterations. ORAL MED

128. Dental Caries, Plaque and Fluorides. (3) Sp. Prerequisite: Biochemistry 110A-B, Oral Medicine and Hospital Dentistry 126, Microbiology 126A-B and Pharmacology 126B-C. Lecture 2 hours, Rotating seminar 8 hours. **Newbrun**

Caries process and prevention to be applied in clinical practice. Concepts of caries: diet, sugar substitutes, microflora, plaque formation, structure, composition and prevention. Dentifrices. Saliva and tooth structure. Fluorides and caries: systemic, topical, sociological factors, metabolism, mechanism of action. Occlusal sealants. ORAL MED

160. Oral Medicine. (1) Sp. Prerequisite: Oral Medicine and Hospital Dentistry 126 and 127. **Chinn**

Clinical oral pathology for the dental hygienist. Diagnosis and management of some common oral lesions are covered. Use of diagnostic aids and methods of treatment are emphasized. ORAL MED

170. Temporomandibular Joint Seminar. (1) F, W, Sp. Prerequisite: D.D.S. degree. With consent of instructor, fourth year students may take this course as an elective. **R. Taylor**

Seminar series covering differential diagnostic techniques and treatment approach to temporomandibular joint disease.

171. Oral Biology. (2) F, W, Sp. Prerequisite: Oral Medicine and Hospital Dentistry 126 and consent of instructor. Seminar 2 hours. **Armitage (F), Savostin-Asling (W, Sp)**

Advanced study of the oral tissues, with emphasis on their histophysiological aspects. ORAL MED

172. Current Oral Pathology. (1-2) Sp. Lecture 1-2 hours. **L. Hansen and Staff**

A seminar designed to acquaint postdoctoral students with current advances, techniques, trends, and developments in the field of oral pathology. ORAL MED

175A-B. Oral Immunology and Immunopathology. (0-4) F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Two-quarter course. **J. Greenspan**

Lectures and seminars on immunological mechanisms and their contribution to oral diseases. Topics to be covered include the immunology of periodontal disease, oral microbial diseases, oral autoimmune disease, and discussions of the interface of immunopathology and inflammation. ORAL MED

176A-B-C. Oral Pathology Seminar. (2-2-2) F, W, Sp. Lecture and Seminar 3 hours. **L. Hansen**

Lectures and seminars on diseases of the oral regions. Disease entities are studied from a clinical and histomorphological standpoint with emphasis on etiology and pathogenesis. ORAL MED

179. Oral Medicine. (0-2) F, W, Sp. Prerequisite: D.D.S. degree. With consent of instructor, fourth year students may take this course as an elective. Due to patient commitments in the clinic, students, once selected, may not withdraw. Clinic 10-20 weeks. **R. Taylor**

Participation in the Temporomandibular Joint Clinic applying knowledge of history-taking and differential diagnosis and utilizing such diagnostic techniques. ORAL MED

180A-B-C. Clinical Pathology Conference. (1-1-1) F, W, Sp. Prerequisite: Fourth year standing. Lecture 1½ hours. **S. Silverman and Staff**

Clinical pathology conference; biology, diagnosis, and treatment of various oral lesions and associated patient problems. Some oral conditions are critically reevaluated in the light of current research advances. Specific medical knowledge is related to patient care. ORAL MED

181. Forensic Odontology. (1) W. Prerequisite: Fourth year standing and consent of instructor. Lecture 1 hour. **Beckstead**

Identification by means of dental evidence, known as forensic odontology. Course includes identification procedures in single and multiple deaths, including homicides and mass disasters, forensic dental radiology, bite marks and bite injury, the medico-legal autopsy, fire research, and forensic anthropology. ORAL MED

185. Diagnostic Oral Pathology. (1) F, W, Sp. Prerequisite: Fourth year standing and consent of instructor. **Merrell**

The advanced dental student participates in lecture-seminars, in which emphasis is placed on the diagnosis of oral disease correlating the history, clinical, operative, radiographic, laboratory, and histopathological findings. ORAL MED

186. Introduction to the Biological Sciences. (1) SS. Lecture, Laboratory and Demonstration 9 hours for three weeks. **Christie**

Introduction to the biological sciences taught in the first year of dentistry: anatomy, biochemistry, and physiology. Course includes one-half day per week orientation to the campus community. ORAL MED

189.01. Oral Medicine. (1) F, W, Sp. Prerequisite: Oral Biology 109.01 and consent of instructor. Clinic 3 hours. **S. Silverman**

Participation in the Oral Medicine Clinic: apply knowledge of history-taking and differential diagnosis; utilize various diagnostic techniques such as biopsy, cytology, and certain clinical pathology laboratory tests; interpret results, prescribe treatment and follow-up; hospital rounds and weekly seminar. ORAL MED

189.03. Advanced Clinical Clerkship in General Dentistry at UC. (1½ per week) F, W, Sp. Prerequisite: Fourth year standing and approval of Clinic Review Committee. **S. Silverman, Ware**

Students provide comprehensive dental care to patients assigned to them under supervision of staff in the medical and hospital environment. Students also attend seminars and conferences. ORAL MED

190. Oral Medicine. (1½) W. Lecture 1½ hours. **S. Silverman, T. E. Daniels, J. Olson**

Review of oral diseases most relevant to physicians. Etiology, diagnosis, management and prevention are covered. Subjects include introduction to dentistry, caries, fluoride, periodontal disease, precancerous lesions, oral cancer, saliva, salivary gland disease, oral aphthae, herpes, smoking, diseases of the tongue. ORAL MED

199. Laboratory Project in Oral Biology. (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. ORAL MED

202. Experimental Techniques in Oral Biology. (3) § W, Sp. Prerequisite: Oral Biology 126 or equivalent. Lecture 1 hour, Lab 6 hours. **Staff**

Principles and methods employed in studying oral tissues such as histochemistry, autoradiography, decalcification procedures, cryostat sectioning, and enzyme histochemistry will be presented. ORAL MED

206. Seminar in Oral Biology. (1-4) § F, W, Sp. Prerequisite: D.D.S. degree and consent of instructor. Seminar 1-4 hours.

S. Silverman and 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. ORAL MED

207. Oral Biology. (1-4) § F, W, Sp.

S. Silverman

Advanced considerations in the field of histopathology. Applications of newer techniques and concepts are presented to increase understanding of the oral cavity in health and disease. Etiology, diagnosis, and therapeutics are discussed. ORAL MED

208A-B. Oral Immunology and Immunopathology. (0-4) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Two-quarter course. **J. Greenspan**

Lectures and seminars on immunological mechanisms and their contribution to oral diseases. Topics to be covered include the immunology of periodontal disease, oral microbial diseases, oral autoimmune disease, and discussions of the interface of immunopathology and inflammation. ORAL MED

209. Biology of Connective Tissue. (2-3) § W, Sp. Prerequisite: Biochemistry 207 or consent of instructor. Lecture 2-3 hours. **Staff**

A seminar course in connective tissue biology, concerned mainly with the development, differentiation, and pathology of connective tissues; includes such topics as regulatory controls of connective tissue macromolecules, fibrosis, wound healing, inflammation, tissue destruction, and selected genetic disorders. ORAL MED

220. Current Topics in Research in Oral Biology. (1½) § F, W, Sp. Lecture 1½ hours. **Staff**

A seminar series covering current advances in research in oral biology in a systematic manner. Current literature is critically reviewed by students under faculty supervision, or by faculty or guest lecturers. ORAL MED

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

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

Reading and conferences under the direction of a member of the staff. ORAL MED

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. ORAL MED

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

Practice in teaching a course in oral biology under the supervision of the instructor in charge. ORAL MED

406. Seminar in Oral Biology. (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. ORAL MED

408A-B-C. Oral Pathology. (2-2-2) F, W, Sp. Lecture and Seminar 2 hours. **L. Hansen**

Lectures and seminars on diseases of the oral regions. Disease entities are studied from a clinical and histomorphological standpoint with emphasis on etiology and pathogenesis. ORAL MED

489.01. Oral Medicine. (1) F, W, Sp. Clinic 3 hours. **S. Silverman**

Participation in the Oral Medicine Clinic applying knowledge of history-taking and differential diagnosis; utilizes various diagnostic techniques such as biopsy, cytology, and certain clinical pathology laboratory tests; interpret results, prescribe treatment and follow-up; hospital rounds; and weekly seminars. ORAL MED

489.02. Oral Medicine. (1) F, W, Sp. Prerequisite: D.D.S. degree and consent of instructor. Clinic 3 hours.

Ware, R. Taylor and Staff

Participation in the Temporomandibular Joint Clinic applying knowledge of history-taking and differential diagnosis; utilizes such diagnostic techniques as laminagraphic

X rays, occlusal analysis, and other specific joint tests; interprets results; prescribes treatment; and follows-up with patient reviews. ORAL MED

Oral Radiology

109.01. Oral Radiology. (0-1) SS, F. Prerequisite: Oral Radiology 121. Lab rotation 24 hours. **Parks**

A course in intraoral X ray technique, including instruction in the long cone paralleling method, and practice on skulls and mannequins. Objective of the course is to prepare the student for clinical experience during the oral diagnosis course rotation. GEN DENT

121. Radiographic Interpretation. (1) F. Lecture 1 hour. **Parks**

An introduction to the fundamentals of radiographic interpretation, some of the basic physics of X ray generation, and radiation biology. GEN DENT

131. Oral Radiology. (1) Sp. Prerequisite: Oral Radiology 121. Lecture 1 hour. **Parks**

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. GEN DENT

150. Oral Radiology for Dental Hygiene. (2) W. Lecture 2 hours. **Parks**

Course covers basically the same material as Oral Radiology 121, but is modified to meet the special needs of the dental hygienist. GEN DENT

159. Oral Radiology. (1) W. Lab 3 hours. **Parks**

A course in intraoral X ray technique including instruction in the long cone paralleling method and practice on mannequins and skulls. GEN DENT

169. Oral Radiology. (1) F. Prerequisite: Oral Radiology 150 and 159. Clinic 3 hours. **Parks**

Course offers, in addition to intraoral technique, instruction and experience in panoramic radiography. GEN DENT

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. **Parks**

Continuation of Oral Radiology 121 and 131 in a seminar teaching format. GEN DENT

199. Laboratory Project in Oral Radiology. (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. GEN DENT

Oral Surgery

109. Clinical Oral Surgery. (0-7½) SS, F, W, Sp. Prerequisite: Third year standing. Clinic and Rotation variable. **Ware**

Students learn to recognize and treat common 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; admit, work-up, discharge hospital patients; perform cardiopulmonary resuscitation. ORAL MED

120. Local Anesthesia. (½) Sp. **R. A. Smith**

Course covers local anesthesia technique as it pertains to the dentition and oral cavity.

130A. Oral Surgery. (1) SS. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture 1 hour. **N. Gordon**

An introduction to the basic principles of exodontia, post-operative care, hemorrhage control, and medical emergencies. ORAL MED

130B. Oral Surgery. (1) F. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture 1 hour. **N. Gordon**

A didactic course outlining the basic principles of removal of unerupted teeth, pre-prosthetic surgery, prescription writing, maxillary sinus involvement, tooth transplantation, wound healing, referrals and consultations. ORAL MED

130C. Oral Surgery. (1) W. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture 1 hour. **R. A. Smith**

A didactic course outlining the principles of pain control with nitrous oxide and I.V. sedation; management of medically compromised patient and medical emergencies in the dental office are presented. ORAL MED

131. Oral Surgery. (1) Sp. Prerequisite: Oral Surgery 130A, 130B and 130C. Lecture 1 hour. **R. A. Smith**

Procedural skills and academic knowledge the general dentist should be familiar with: includes the treatment of cysts, infection, developmental deformities of the jaws and salivary glands, duct diseases, and procedures. ORAL MED

132. Medical Evaluation, Medical Emergencies, and Parenteral Administration of Drugs. (½) F. **R. A. Smith**

Medical evaluation of dental patients and in-depth evaluation and treatment of patients with medical problems. Evaluation and treatment of cardiac arrest. Discussion of emergency drugs and development of an office emergency kit. Demonstrations of parenteral administration of drugs. ORAL MED

171. Applied Surgical Anatomy. (1) F, W, Sp. Prerequisite: Limited to interns and residents. Lab 3 hours. **Courage**

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 MED

173. Surgical Orthodontics. (1) F, W, Sp. Prerequisite: Enrollment in oral surgery residency program. Lecture 1 hour. **Ware**

Orthodontic and oral surgery residents will participate in evaluating and defining treatment possibilities for patients with facial and occlusal deformities which may require combined therapy. Review and presentation of previously treated patients and pertinent literature will be included. ORAL MED

175. Oral Surgery. (13) Su. Prerequisite: Limited to oral surgery interns. Hospital and Clinic 40 hours. **Ware and Staff**

Principles of surgery and local anesthesia as related to the mouth and clinical operations on patients. ORAL MED

175.01A-B. Oral Surgery (2-7, 2-7) F, W. Prerequisite: Limited to interns and residents. Lecture-Seminar 2 hours, Clinic 0-15 hours. **Ware and Staff**

Continuation of Oral Surgery 175. ORAL MED

175.02. Oral Surgery. (15) Su. Prerequisite: Limited to oral surgery residents. Seminar 2 hours, Hospital and Clinic 40 hours. **Ware and Staff**

Continuation of Oral Surgery 175.01A-B. ORAL MED

175.03. Oral Surgery. (13) F. Prerequisite: Limited to oral surgery residents. Hospital and Clinic 40 hours. **Ware and Staff**

Hospital procedures, ward rounds, and clinical practice in several hospitals; treatment of jaw fractures, osteomyelitis, cellulitis, and other complicated oral surgical procedures. Resident will have administrative responsibilities in conducting ward rounds and weekly conferences. ORAL MED

175.04B-C. Oral Surgery. (10-10) W, Sp. Prerequisite: Limited to oral surgery residents. Lecture 2 hours. Hospital and Clinic 24 hours. **Ware and Staff**

Continuation of Oral Surgery 175.03 with the addition of surgery of the jaws for correction of such facial deformities as prognathism, apertognathia, and retrognathia. Instruction in temporomandibular joint surgery. ORAL MED

175.05. Oral Surgery (13) Su. Prerequisite: Oral Surgery 175.04B-C. Limited to oral surgery residents. Hospital and Clinic 40 hours. **Ware and Staff**

Continuation of clinical oral surgery. Certain periods each week devoted to supervised instruction of undergraduate students. ORAL MED

175.06A-B-C. Oral Surgery. (13-13-13) F, W, Sp. Prerequisite: Oral Surgery 175.05. Limited to oral surgery residents. Hospital and Clinic 40 hours. **Ware and Staff**

Continuation of Oral Surgery 175.05. ORAL MED

175.07. Office Anesthesia for the Ambulatory Oral Surgery Patient. (2) F, W, Sp. Prerequisite: Limited to second and third year oral surgery residents. Clinic 8 hours. **Courage**

Under oral surgery office conditions, and under immediate supervision of the staff, residents will be responsible for care and management of the ambulatory patient who is to undergo an oral surgery procedure under ambulatory anesthesia. ORAL MED

181. Cardiopulmonary Resuscitation. (1/2) Sp. **R. A. Smith**

An elective didactic and demonstration course with practice sessions to insure the student's knowledge and capability of managing the psychomotor skills of cardiopulmonary resuscitation. ORAL MED

189.01. Advanced Oral Surgery. (0-9) SS, F, W, Su. Prerequisite: Fourth-year standing and consent of instructor. Clinic variable. **Ware and Staff**

Additional clinical experience in oral surgery. ORAL MED

189.02. Hospital Oral Surgery. (0-3) F, W, Sp. Prerequisite: Oral Surgery 109. Consent of instructor and approval of Clinic Review Committee. Clinic and Seminar at VA. **Ware, Courage**

Course provides limited experience in hospital oral surgery including assisting and performing oral surgery procedures, and aspects of premedication as related to the ambulatory patient; orientation in hospital decorum and operating room procedures. ORAL MED

189.03. Hospital Oral Surgery. (0-3) F, W, Sp. Prerequisite: Oral Surgery 109. Consent of instructor and approval of Clinic Review Committee. Clinic and Seminar at SFGH. **Ware and Staff**

Course provides limited experience in hospital oral surgery including assisting and performing oral surgery procedures, and aspects of premedication as related to the ambulatory patient; orientation in hospital decorum and operating room procedures. ORAL MED

189.04. Advanced Clinical Clerkship in Oral Surgery at UC and SFGH. (1 1/2 per week) F, W, Sp. Prerequisite: Fourth year standing and approval of Clinic Review Committee. **Ware, Courage, Khosla**

Students participate in oral surgery care of hospital inpatients and outpatients. They also attend seminars and lectures. ORAL MED

199. Laboratory Project in Oral Surgery. (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. ORAL MED

489.01. Clinical Oral Surgery. (1) F, W, Sp. Prerequisite: Enrollment in dental internship program. Clinic ½ day.

Courage, R. A. Smith, N. Gordon

Course is designed to teach the dental intern exodontia procedures under close supervision in the oral surgery clinic. The trainee takes responsibility for care of the oral surgery patient including preoperative evaluation, surgery planning, and post-operative care. ORAL MED

Orofacial Anomalies

170. Orofacial Anomalies. (2) F. **Lawson**

Normal development of speech, consideration of speech patterns, habits, and defects as related to dental and orofacial problems. GR DEVEL

171. Diagnosis and Treatment of Orofacial Anomalies. (2) F, W, Sp. Lecture 1 hour, Seminar and Clinic 3 hours. **Harvold, Chierici**

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

178B-C. Abnormal Facial Growth. (2-2) W, Sp. Seminar 2 hours. **Harvold**

Diagnosis of orofacial malformations. Emphasis is on the interrelationship of morphology and physiology. GR DEVEL

180.01. Speech Habilitation. (1) W. Seminar 1 hour. **Lawson**

Normal development of speech. Introduction to the acoustic and linguistic elements. Consideration of the speech patterns, habits, and defects related to dental and orofacial problems. GR DEVEL

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

Chierici, Harvold

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

187.01. Special Study for Advanced Undergraduates. (1) F, W, Sp. Prerequisite: Fourth year standing and consent of instructor and approval of Clinic Review Committee. Seminar and Clinic 3 hours. **Harvold**

Instruction in biometric technique and methodology is given in connection with a selected research project. GR DEVEL

187.02. Diagnosis and Treatment Planning in Orofacial Malformations. (1) W, Sp. Prerequisite: Orofacial Anomalies 187.01. Seminar and Clinic 3 hours. **Harvold**

A clinical survey, a clinical experiment, or an animal experiment is designed and analyzed. GR DEVEL

401. Orofacial Prosthetics. (1-3) F. Prerequisite: D.D.S. degree or equivalent. Seminar and Lab 3-9 hours. **Chierici and Staff**

Prosthetic habilitation of the patient with orofacial malformations. Discussions include principles and techniques of construction of obturators, speech appliances, and retention bridges. GR DEVEL

406A-B-C. Orofacial Orthopaedics. (1-3, 1-3, 1-3) F, W, Sp. Prerequisite: D.D.S. degree or equivalent. Seminar, Lab, and Clinic 3-9 hours. **Harvold and Staff**

Diagnosis of orofacial malformations and current preventive and corrective measures. Emphasis is placed on the interrelationship of morphology and physiology and the coordination of treatment by the various disciplines involved. GR DEVEL

407. Orofacial Prosthetics. (1-3) W. Prerequisite: D.D.S. degree or equivalent. Seminar, Lab, and Clinic 3-9 hours. **Chierici and Staff**

A course designed to acquaint the student with the many facets of prosthetic management of acquired oral defects. Relationships of prosthetics to speech, mastication, deglutition, oral biology, and surgery are discussed. The interdisciplinary management of these problems is stressed. GR DEVEL

408A-B-C. Speech Habilitation. (1-3, 1-3, 1-3) F, W, Sp. Prerequisite: D.D.S. degree or consent of instructor. Seminar, lab, and clinic 3-9 hours. **Lawson and Staff**

Normal development of speech, etiology, and diagnosis of speech defects; principles and methods of remedial procedures, with special emphasis on patients with orofacial malformations or defects. GR DEVEL

Orthodontics

109. Clinical Orthodontics. (0-3) F, W, Sp. Prerequisite: Orthodontics 121 and 131A-B, or concurrent enrollment in Orthodontics 131A or 131B. Clinic variable. **R. M. Meyer**

Evaluation and treatment of clinical orthodontic problems as experienced in general dental practice. Students will treat problems and refer others to specialists. Observation of specialists' management of the more difficult problems is also available. GR DEVEL

121. Introduction to Growth and Development. (1) Sp. Lecture 1 hour. **R. M. Meyer**

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

130. Basic Orthodontic Technics. (1) SS. Lecture 1 hour for six weeks. Lab 3 hours for six weeks. **R.M. Meyer**

A lecture and laboratory course designed to enable the student to fabricate and place a removable orthodontic appliance, a lingual arch, and solder wires. Experience in producing study casts, and measurement and analysis of casts and headfilms will be included. GR DEVEL

131A-B. Orthodontics in General Practice. (0-2, 0-2) F, W. Prerequisite: Orthodontics 121. Lecture 1 hour. **R.M. Meyer**

Recognition and treatment of the problems most commonly seen by the general practitioner. GR DEVEL

132. Principles of Orthodontic Treatment. (1) Sp. Prerequisite: Orthodontics 121 and 131A-B. Lecture 1 hour. **R.M. Meyer**

Discussion of diagnostic technics used in orthodontics, limitations of orthodontic treatment, and principles of treatment with edgewise appliance. GR DEVEL

160. Principles of Orthodontics. (1) Sp. Lecture 1 hour. **E. West and Staff**

A discussion of recognition, etiology, and principles of orthodontics for the dental hygienist. GR DEVEL

170A-B. Fundamentals of Orthodontics. (3-2) F, W. Lecture 3 hours F, 2 hours W. **E. West**

Classification, etiology, and diagnosis of malocclusion. Study of the dentition and the relationships of dental and cranial structures. GR DEVEL

170C. Fundamentals of Orthodontics. (2) Sp. Prerequisite: Orthodontics 170A-B. **E. West**

Continuation of Orthodontics 170A-B. GR DEVEL

170.01. Orientation to Orthodontics. (9) SS. Prerequisite: Enrollment in postgraduate program. Seminar and Clinic variable. **Poulton**

Orientation to Orthodontics Clinic and basic principles and techniques in orthodontics. GR DEVEL

171B-C. Orthodontics in Periodontic Practice. (1-1) W, Sp. Prerequisite: Consent of instructor and enrollment in a postdoctoral specialty program. Lecture 1 hour. **E. West**

Course includes orthodontic principles and technics that are applicable in a periodontic practice. GR DEVEL

171.01A-B-C. Craniofacial Growth. (2-2-2) F, W, Sp. Lecture 2 hours. **Mathews**

Research methods in the study of growth with findings relative to sites of growth, serial development of pattern, and factors influencing facial growth. GR DEVEL

171.02. Biology of Dentofacial Development. (2) Sp. Prerequisite: Orthodontics 171.01 A-B-C. **Mathews**

Embryology of the face and palate, biology of cartilage and bone as applied to dentofacial development of newborn babies, and physiology of tooth movement. GR DEVEL

171.03A-B-C. Orthodontics in Pedodontic Practice. (1-1-1) F, W, Sp. Prerequisite: Consent of instructor and enrollment in a postdoctoral specialty program. Lecture 1 hour. **R. M. Meyer**

Course includes orthodontic principles and technics that are applicable in a pedodontics practice. GR DEVEL

171.04A-B-C. Orthodontics in Pedodontic Practice. (1-1-1) F, W, Sp. Prerequisite: Orthodontics 171.03A- B-C. Lecture 1 hour. **R. M. Meyer**

Continuation of Orthodontics 171.03A-B-C. GR DEVEL

171.05A-B-C. Growth and Development. (1-1-1) F, W, Sp. Prerequisite: Enrollment in orthodontics program. Lecture 1 hour. **Isaacson**

Orthodontic applications of basic craniofacial growth and development. GR DEVEL

172A. Cephalometrics. (2) F. Seminar 2 hours. **Poulton**

Use of lateral headfilms; reliability of landmarks, applications in dentistry. Technics of tracing, evaluation of relationships, and of superpositioning are discussed and illustrated. GR DEVEL

172B. Cephalometrics (2) W. Lecture 2 hours. **Poulton**

Evaluation of various analyses used in orthodontic diagnosis including growth changes in serial studies. GR DEVEL

172C. Concepts in Prediction of Facial Growth. (1) Sp. Lecture 1 hour. **W. Watson**

Course describes growth concepts in the prediction of facial growth as it applies to orthodontic treatment. GR DEVEL

172.01A-B-C. Introduction to Orthodontic Research. (2-2-1) F, W, Sp. Lecture 2 hours F, W; 1 hour Sp. **Baumrind**

Introduction to design and analysis of clinical investigations. Special emphasis placed on critical reviews of selected scientific literature in terms of appropriate design, hypothesis testing, and generalization. GR DEVEL

172.02A-B-C. Supervised Orthodontic Research. (2-2-2) F, W, Sp. Prerequisite: 172.01B-C. **Baumrind**

Participation in group and individual clinical investigations including experience in hypothesis generation, sampling, measurement, data acquisition, and data analysis. GR DEVEL

173. Surgical Orthodontics. (1) F, W, Sp. Prerequisite: Enrollment in orthodontics residency program. Lecture 1 hour. **Poulton**

Orthodontic and oral surgery residents will participate in evaluating and defining treatment possibilities for patients with facial and occlusal deformities which may require combined therapy. Review and presentation of previously treated patients and pertinent literature will be included. GR DEVEL

173.01A-B-C. Orthodontic Diagnosis. (1-1-1) F, W, Sp. **Poulton and Staff**

Evaluation and treatment planning of various types of malocclusion. GR DEVEL

173.02. Special Study. (1) F, W, Sp. Research 3 hours. **Baumrind**

Research project and preparation of thesis. GR DEVEL

173.03A-B-C. Treatment Planning. (1-1-1) F, W, Sp. **Poulton and Staff**

Staff seminar. GR DEVEL

173.04. Treatment Planning. (1) SS. Seminar 1 hour. **Poulton**

Staff seminar. DR DEVEL

173.05. Special Study. (1) SS. Research 3 hours. **Baumrind**

Research project and preparation of thesis. GR DEVEL

173.06. Treatment Evaluation. (1) SS. Seminar 1 hour. **Poulton**

An evaluation of orthodontic treatment and prognosis for stability of results of treatment. GR DEVEL

174A-B. Biomechanics. (2-1) F, W. Lecture 2 hours F, 1 hour W. **Righellis**

Development of force systems and advanced orthodontic technics. GR DEVEL

174C. Biomechanics. (1) Sp. Lecture 1 hour. **Yoshikawa**

Fundamental concepts of force systems will be presented. Included are equilibrium force equivalency and free body analysis. These concepts will be related to orthodontic tooth movement and appliance design. GR DEVEL

174.01A-B. Primary and Mixed Dentition Diagnosis and Treatment. (1-1) SS 1, SS 2. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours for six weeks. **R.M. Meyer**

Orthodontics, primary, and mixed dentition is designed to provide diagnostic in-

formation and treatment planning for malocclusions in the primary and mixed dentition periods of dental development. GR DEVEL

174.02. Guest Lectures. (1) SS. Prerequisite: Enrollment in postgraduate specialty program. Lecture 2 hours for six weeks. **Poulton**

A series of lectures on specialized topics by guest lecturers. GR DEVEL

174.03. Mixed Dentition Treatment Planning. (1) Sp. Lecture 1 hour. **E. West, R. M. Meyer**

Course is designed to distinguish between those cases where supervision, limited treatment, or no treatment of an orthodontic problem is appropriate. Emphasis is placed on rationale, procedures to be used, and evaluation of progress. GR DEVEL

175. Cleft Palate Orthodontics. (2) F. Seminar 2 hours. **Poulton**

Principles of treatment. GR DEVEL

176B-C. Comparative Orthodontic Concepts. (2-2) W, Sp. Seminar 2 hours. **Poulton**

Critical evaluation of orthodontic treatment procedures to provide students with a knowledge of technics differing from those taught in clinical courses. GR DEVEL

177. Practice Management. (1) F. Seminar 1 hour. **Scholz, Moawad**

Practice management and office administration. GR DEVEL

178.01A-B-C. Orthodontic Mechanics. (1-1-1) F, W, Sp. Lecture 1 hour. **R. Roth**

A systematic review of orthodontic treatment mechanics with particular attention to tooth position and occlusal function. GR DEVEL

179.01A-B-C-D-E. Clinical Orthodontics. (0-24, 0-24, 0-24, 0-24, 0-24) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postgraduate orthodontics program. Lab variable. **Poulton and Staff**

Laboratory instruction precedes clinical experience. A minimum of 1,080 hours are included in the series of Orthodontics 179.01A-B-C, 179.02, 179.03A-B-C, and 179.04. GR DEVEL

179.03A-B-C-D-E. Clinical Orthodontics. (0-24, 0-24, 0-24, 0-24, 0-24) F, W, Sp, SS 1, SS 2. Clinic variable. **Poulton and Staff**

Continuation of Orthodontics 179.01A-B-C-D-E. GR DEVEL

179.04. Clinical Orthodontics (0-5) SS. Clinic 15 hours. **E. West and Staff**

Continuation of Orthodontics 179.03A-B-C. GR DEVEL

180. Evaluation of Malocclusions. (1) W. Prerequisite: Orthodontics 121, 131A-B, and 132. Seminar 1 hour. **R.M. Meyer**

Discussion of diagnosis, prognosis, and approach to treatment of malocclusions. Includes treatment timing, limitations, and interdisciplinary problems. GR DEVEL

181. Occlusion. (1) Sp. Prerequisite: Orthodontics 121, 131A-B, and 132. Seminar 1 hour. **Scholz**

Various concepts of occlusion will be evaluated as they affect habilitation and functional problems of the temporomandibular joint. GR DEVEL

189. Clinical Orthodontics. (0-9) F, W, Sp. Prerequisite: Orthodontics 121 and 131A-B. Fourth year standing and approval of Clinic Review Committee. Clinic variable. **Righellis**

Treatment of orthodontic problems related to general dental practice. GR DEVEL

199. Laboratory Project in Orthodontics. (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. 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 includes 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.

140.01. Orthopaedic Surgery Clinical Clerkship at UC, SFGH and VA. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. *UC W. Murray*

Students, assigned to inpatient and outpatient services, receive instruction and experience in examination and treatment of patients. Assistance in surgery and use of treatment modalities are required. Clinical demonstrations, seminars, and conferences form the basis for didactic instruction. ORTHO SURG

140.02. Orthopaedic Surgery Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. *W. Murray*

Orthopaedic surgery clinical clerkships are offered in off-campus hospitals approved by the chairman of the department and the Dean. ORTHO SURG

401. Lectures in Orthopaedic Pathology. (1) F, W, Sp. Prerequisite: Third and fourth year residents. *UC J. Johnson*

A lecture series covering tumors and infections of the musculoskeletal system, illustrated by microscopic slides and photographs of gross specimens. ORTHO SURG

402. Seminars in Physiology of Musculoskeletal System. (1) F, W, Sp. *UC Chapman*

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. Demonstrations in Gross and Functional Anatomy. (1) F, W, Sp. *UC Chapman*

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. Seminar in Orthopaedic Literature. (1) F, W, Sp. Residents at C, RDMC, SFGH, SSF, UC and VA. *UC Chapman*

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. Conference in Rheumatoid Arthritis. (1) Su, F, W, Sp. *UC W. Murray*

Clinical instruction in the care and management of orthopaedic problems in rheumatoid arthritis and allied diseases. Cases are presented by residents to attending staff and rheumatology consultants. ORTHO SURG

407. Orthopaedic Surgical Conference. (1) Su, F, W, Sp. *H Slabaugh*

Seminars include presentation of problem cases by residents for consideration of diagnosis, treatment, and discussion by the attending staff. ORTHO SURG

408. Orthopaedic Surgical Conference. (1) Su, F, W, Sp. *SFGH Bovill*

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 L. Larsen*

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 consultant staffs. Cases are presented by the residents. ORTHO SURG

412. Orthopaedic Clinical Seminars. (1) Su, F, W, Sp. *CHMC Barer, H Slabaugh, SM W. Jackson*

Seminars are held in rotation at each of these hospitals with residents from all three hospitals attending. They include literature review and demonstrations related to surgical approaches, anatomical dissections, diagnosis and treatment. ORTHO SURG

413. Medical Staff Conference. (1) Su, F, W, Sp. *UC W. Murray*

Residents prepare and present case histories of inpatients and selected outpatients. Course includes discussions on diagnostic procedures, indications for surgery, immediate postoperative follow-up, and problem cases (consultations). ORTHO SURG

450. Clinical Adult Orthopaedics. (1½ per week) Su, F, W, Sp. *RDMC Maeck,*

PMC Niebauer, KP J. Johnston, MZ R. Gordon, Q I. Larsen, RLA J. Perry, FR Hartwig, UC W. Murray

Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations. ORTHO SURG

451. Clinical Pediatric Orthopaedics. (1½ per week) Su, F, W, Sp. **C. L. Larsen, CHMC Barer, SSF L. Larsen, SH I. Larsen**

Residents are responsible for patient care in the wards and outpatient clinic including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations. ORTHO SURG

452. Clinical Traumatic and Adult Orthopaedics. (1½ per week) Su, F, W, Sp.

SFGH Bovill, SM W. Jackson, VA Maurer, H Slabaugh

Residents are responsible for patient care in the wards and outpatient clinic including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques, and consultations. ORTHO SURG

453. Clinical Orthopaedics. (1½ per week) Su, F, W, Sp. Chief resident. **UC W. Murray**

Under faculty supervision, the chief resident organizes care and referral of staff patients; supervises a weekly follow-up clinic; administers the teaching-bed fund; independently performs operative procedures in selected cases; advises interns, residents, and fourth-year medical students; participates in paramedical teaching. ORTHO SURG

455. Clinical Orthopaedics: Sports Medicine at MZ. (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. (1½ per week) Su, F, W, Sp. **SFGH Bovill**

Interns rotate through orthopaedic wards and follow-up clinics. They are responsible for patient care under the direction of the at-

tending staff, including history-taking, physical examinations, X-ray conferences, and consultation. ORTHO SURG

Otolaryngology

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

Core Clerkship — Surgery 110 and 111 includes 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.

140.01. Clinical Otolaryngology Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110. **Boles**

A practical course in general otolaryngology, including diagnosis and treatment of common ear, nose, and throat problems. Both inpatient and outpatient experiences will be offered at the following hospitals: UC, SFGH, VA, NRMIC and L. OTOLARYN

140.02. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110. **Boles**

Clinical clerkships in off-campus hospitals approved by the chairman of the department and the Dean. OTOLARYN

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

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 in Otolaryngology. (1-5) F, W, Sp. Prerequisite: Consent of instructor. **R. Schindler**

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) F, W, Sp. **Crumley**

Lectures cover the anatomical, physiological, and clinical aspects of otolaryngology. OTOLARYN

401. Gross Anatomy of the Head and Neck. (1) W. **Crumley**

A formal course in the anatomy of the head and neck. OTOLARYN

402. Gross Anatomy of the Head and Neck. (1½) F, W, Sp. **VA J. Ross**

Cadaver dissection and demonstrations given by members of the staff. OTOLARYN

403. Ear, Nose, and Throat Histology and Pathology. (½) F, W. **Dekelbaum**

A review of ear, nose, and throat pathology from currently available gross and microscopic surgical pathological material from the operating rooms and pathology laboratories. 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

405. Seminar in Audiology and Speech Pathology. (1) F, W, Sp. **UC Owens**

Seminar includes psychophysical backgrounds in audiology, basic and advanced tests of hearing, functional hearing loss, hearing aids, testing of children, aural rehabilitation, and speech and hearing problems of children and adults. OTOLARYN

406. Tumor Conference in Otolaryngology. (1) Su, F, W, Sp. **UC Dedo**

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

409. Surgical Pathology. (1) Su, F, W, Sp.
VA J. Ross

A review of all gross and microscopic pathology conducted by staff members in conjunction with the Department of Pathology. OTOLARYN

410. Temporal Bone Anatomy and Pathology. (½) F, W. R. Schindler

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

411. Temporal Bone Anatomy and Pathology. (½) F, W, Sp. VA J. Ross

A review of surgical anatomy and dissection of fresh temporal bones conducted by members of the staff. OTOLARYN

412. Tumor Board. (1) Su, F, W, Sp.
VA J. Ross

Tumor cases are presented for diagnosis and recommendations for treatment. OTOLARYN

413. Audiology Conference. (1) Su, F, W, Sp.
VA J. Ross

Combined Audiology and Otolaryngology Staff Conference where all patients evaluated for hearing problems are presented, and diagnosis and treatment recommendations are made. OTOLARYN

414. Journal Club. (¼) F, W, Sp. VA J. Ross

A review of all current ear, nose, and throat literature. OTOLARYN

450. Clinical Otolaryngology. (10) Su, F, W, Sp.
C McCoy, SFGH Crumley,
UC Boles, VAF Beil, VMC Beil

Residents, under supervision, are responsible for patient care in the wards and out-patient 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

451. Clinical Otolaryngology. (10) Su, F, W, Sp.
VA J. Ross

Residents, under supervision, are responsible for patient care in the wards and out-patient clinics including history-taking, physical examination, laboratory tests, preoperative and postoperative care, minor surgery, audiometry, vestibular testing, consultations, and Officer-of-the-Day duties. Senior resident has certain administrative, teaching, and clinical responsibilities. OTOLARYN

452. Technique of Endoscopy. (1) F, W, Sp.
All residents except at VA. Crumley

A study of the techniques of endoscopy and some practical laboratory study including cadaver work. OTOLARYN

453. Surgical Otolaryngology. (1½ per week)
Su, F, W, Sp. Boles

Residents, in off-campus hospital for surgical training to satisfy Board requirements, are responsible, under supervision, for patient care in wards and clinic and assistance at operations. Diagnosis and treatment of surgical conditions in the head and neck area are stressed. OTOLARYN

490. Clinical Otolaryngology at SFGH. (1½ per week) Su, F, W, Sp. Crumley

Interns, under supervision of the attending staff, are responsible for patient care on wards and in the follow-up clinic, including history-taking, examination, and consultation. This rotation is combined with patient-care assignments in the Ophthalmology Service. OTOLARYN

Parasitology

135. Medical Parasitology. (3) W. Lecture 2 hours, Lab demonstration 2 hours.

Heyneman and Staff

An introduction to the protozoa, helminths, and arthropods that parasitize man. Parasite ecology and disease epidemiology, clinical and diagnostic aspects of parasitic diseases and their treatment are considered in lecture and laboratory. Emphasis in the laboratory is on demonstration. EPID INTL HLTH

Pathology

101. General Pathology. (4) § Sp. 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 2 hours, Lab/Seminar 4 hours.

Friend and Staff

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

102. Systemic Pathology. (6) § F. Prerequisite: Anatomy 103, Medicine 132A, Microbiology 100A and 100B, Pathology 101 and Physiology 101 or concurrent enrollment. Lecture 3 hours, Lab/Seminar 6 hours.

Margaretten and Staff

Recent advances and classical concepts of diseases as they affect each of the organ systems are presented. Emphasis on correlation of functional and morphologic characteristics of diseases of organ systems. PATHOLOGY

126. General Pathology. (5) § F. Prerequisite: Substantive courses in biochemistry, physiology, histology, microbiology (first quarter, concurrent) or an introduction to immunology. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours, Lab 6 hours. **Biava and Staff**

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. (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.

Biava and Staff

This course is identical to the lecture portion of Pathology 126. PATHOLOGY

150.02. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Pathology 101 and 102. **Smuckler**

Clinical clerkships in off-campus hospitals approved by the chairperson of the department and the Dean. PATHOLOGY

150.03. Surgical Pathology and Postmortem Examinations at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Pathology 102 and consent of instructor.

McKay, Margaretten, Howes

Students prepare surgical specimens, perform autopsies under supervision, and participate in teaching conferences. PATHOLOGY

150.04. Clinical Clerkship in Pathology at UC and VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. Consent of instructor. **W. Johnston**

Students work closely with the faculty and house staff in the performance of autopsies and in the diagnostic work-up of surgical specimens. They actively participate in departmental conferences and seminars. Opportunity provided for development of specific areas of investigation. PATHOLOGY

150.05. Research in Pathology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department. **Staff**

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

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 nonmalignant 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

170.02. Renal Biopsy Conference. (½) F, W, Sp. Prerequisite: Pathology 101. Lecture 1½ hours. **Biava**

Study of clinical and pathological aspects of current cases of renal disease. New material is presented each quarter during an academic year; therefore course may be repeated for credit. PATHOLOGY

170.04. Anatomic 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.

J. J. Townsend

Emphasis is placed on clinicopathological correlation of neurological diseases by means of study of gross and microscopic material and participation in conferences. PATHOLOGY

170.08. Studies in Pathology. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department. **Staff**

Studies in pathology at other institutions with the approval of the chairperson of the department. PATHOLOGY

180.01. Pathology. (3) F. Prerequisite: Anatomy 118. Lecture 3 hours.

M. L. Goldberg and Staff

This course is identical to the lecture portion of Pathology 126. Elective in the dental hygiene curriculum. PATHOLOGY

198. Supervised Study in Pathology. (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 in Pathology. (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

220. Seminar. (1) § F, W, Sp. Prerequisite: Permission of the chairman of the department. **Stern**

Faculty members and visiting professors discuss recent developments in diagnosis and research in pathology. PATHOLOGY

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

296. Exploitable Models for the Study of Human Disease Process. (3) § W. Prerequisite: Pathology 101, 102, or 126 recommended. Lecture 3 hours. **R. Stern**

This course will attempt to establish interaction between basic science and current clinical problems. Various experimental animal models used in the investigation of basic human disease processes will be explored. Various lecturers will present systems and experiments from their own laboratories. PATHOLOGY

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

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

400. Combined Pathology and Laboratory Medicine Staff Seminars. Prerequisite: Medicine 110 and Surgery 110 or consent of instructor. Seminar 1 hour. **W. Johnston**

Recent developments in diagnosis and research in pathology and laboratory medicine are discussed by faculty and guest speakers. PATHOLOGY

401. Special Pathology Seminars. (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 and pathological concepts. PATHOLOGY

404. Clinicopathological Conference. (1) F, W, Sp. Residents. **SFGH McKay, Margaretten**

Conference includes the collection of data and materials, summary of histories, and citation of pertinent literature by faculty. Residents participate in clinicopathological conferences where emphasis is placed on correlation of clinical manifestations of disease with clinical laboratory and autopsy findings. PATHOLOGY

450. Pathologic Anatomy. (5-10) Su, F, W, Sp. Required for interns; elective for residents. **SFGH, UC, VA W. Johnston**

Theory and methodology of pathologic anatomy, interpretation and correlation of data, and study of literature. PATHOLOGY

455. Seminars in Diagnostic Electron Microscopy. (1) W. Prerequisite: Medicine 110 and Surgery 110 and consent of instructor. Lecture 1 hour. Elective for interns and residents. **W. Johnston**

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. (1½ per week) Su, F, W, Sp. Required for interns. **SFGH, UC, VA W. Johnston**

Theory and methodology of pathologic anatomy, interpretation and correlation of data, and study of literature. PATHOLOGY

Pediatrics

100. Medical Genetics. (2) F. Lecture 2 hours. **C. Epstein**

Basic aspects of human genetics are presented in a context relevant to the diagnosis, treatment, and counseling of genetic disorders and congenital malformations. Emphasis is placed on the application of genetic knowledge to actual counseling problems. PEDIATRICS

110. Required Clerkship in Pediatrics at UC, SFGH, C and L. (1½ per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences. **Grumbach, M. Grossman**

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

140.01. Advanced Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach**

Advanced clerkship including: Normal newborn and IC Nursery; OPD Acute Care Unit; Inpatient at UC; OPD at SFGH; Outpatient clinics at L; Inpatient and outpatient at K; Inpatient and outpatient at CHMC; Inpatient and outpatient at NRM. PEDIATRICS

140.01A. Advanced Clerkship at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. **Grumbach**

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

140.01B. Advanced Clinical Clerkship — Outpatient at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. **Grumbach**

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

140.01C. Advanced Clinical Clerkship — Outpatient at L. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach, J. Stewart**

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

140.01D. Advanced Clinical Clerkship — Outpatient at CHMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach, Gerdson**

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

140.01E. Advanced Clinical Clerkship — Inpatient at CHMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach, Gerdson**

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

140.01F. Advanced Clinical Clerkship — Outpatient at K. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. **Grumbach**

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. Advanced Clinical Clerkship — Inpatient at K. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach, Shinefield**

Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences for discussion of patients. PEDIATRICS

140.01H. Advanced Clinical Clerkship — Outpatient at NRM. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach, J. Hayes**

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

140.01I. Advanced Clinical Clerkship — Inpatient at NRM. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach, J. Hayes**

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. Advanced Clinical Clerkship at Moffitt Nursery. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach, Phibbs**

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

140.02. Off-Campus Clinical Clerkships. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach**

Clinical clerkship in off-campus hospitals approved by the chairman of the department and the Dean. PEDIATRICS

140.03. Ambulatory Pediatrics at VMC. (6) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Nilson**

Working with a pediatric house staff and pediatric nurse practitioner team and under the supervision of the staff pediatrician, the clerk will have direct primary care and health supervision responsibilities for selected well and acutely ill children in a clinic setting. PEDIATRICS

140.04. Pediatric Cardiology. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **A. Rudolph**

Experience in cardiac evaluation and treatment including clinical work-up in the ward and clinic, cardiac catheterization, angiography, children's electrocardiographs, surgical management, and postoperative care. PEDIATRICS

140.05. Pediatric Private Practice. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. Open to UCSF students only. **L. P. Smith**

Working experience with a pediatrician on the clinical faculty as the pediatrician sees patients in the office and in the hospital. Student may select time in small group, large group or subspecialty practice, or a combination of these. PEDIATRICS

140.06. Adolescent Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Gareis**

Clinical clerkship in adolescent medicine with emphasis on outpatient clinical experience in a wide range of health problems of the adolescent. PEDIATRICS

140.08. Ambulatory Pediatric Clerkship at MZ. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

R. Ballard, D. Bergman

Students participate as members of physician team in the ambulatory pediatric program with Children and Youth Project. Night call includes pediatric E.R. and inpatient experience. Students will follow patients from their team on the inpatient service. PEDIATRICS

140.09. Child Neurology. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Berg

Supervised participation in clinical activities, both inpatient and outpatient, and all regularly scheduled conferences of the Child Neurology Division. Study of the developing nervous system and diseases of the nervous system affecting infants, children, and adolescents. PEDIATRICS

140.10. Pediatric Hematology and Oncology. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Consent of instructor. Open to UCSF students only. **Mentzer, P. Dallman, Koerper, Lubin**

Students participate in ward rounds, outpatient clinic, and laboratory evaluation of blood and bone marrow specimens at UC, SFGH, and CHMC. Pursuit of special interests in the clinic or laboratory is encouraged. PEDIATRICS

140.11. Pediatric Cardiology at CHMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Higashino**

Students participate in clinical experience including outpatient evaluation, instruction in the noninvasive methods of diagnosis, care of ward medical and surgi-

cal cardiac patients, cardiopulmonary laboratory, and cardiovascular conferences. Emphasis is on the physiological principles of diagnosis and management. PEDIATRICS

140.12. Pediatric Inpatient Elective. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Zoger, M. Abbott

Advanced clerkship on the general medical-surgical pediatric inpatient unit. Family-centered care is emphasized through the Care With Parent Program. Night call includes pediatric E.R. experience. PEDIATRICS

140.13. Pediatrics Endocrinology. (1½ 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. Management of Juvenile Diabetes at Diabetic Camp. (1½ per week) Su. Prerequisite: Medicine 110 and Pediatrics 110.

Olney

Work under the direction of the instructor in Diabetic Camp, clinical and management aspects of diabetes. Students have an opportunity to participate in the operation of the camp program and treatment of many aspects of diabetes in children, adolescents, and young adults. PEDIATRICS

140.15. Pediatric Oncology. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

Ablin, Kushner, 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. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

Holliday, Piel, Potter

Introduction to general nephrology. Clinical experience in pediatric nephrology with children having nutritional problems, ESRD, and chronic renal failure. Posttransplant and dialysis consultations, new cases from the nursery, and cases requiring TPN. Research projects may be arranged with instructors. PEDIATRICS

140.17. Clinical Genetics. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

C. Epstein, B. Hall

Evaluation and management of children and adults with hereditary (including cytogenetic) diseases, with particular emphasis on genetic counseling, patterns of human malformation, and the biochemical and genetic mechanisms involved in the pathogenesis and transmission of these conditions. PEDIATRICS

140.19. Externship in Inpatient Pediatrics at C. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

Giammona

Students participate in patient care in close association with the house staff and clinical fellows both in wards caring for sick children and in Newborn Intensive Care Unit, and in rounds and conferences conducted by senior staff. PEDIATRICS

140.21. Pediatric Allergy. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. **Frick**

Participation in the activities of allergy-immunology trainees, including basic clinical immunology course, journal club, and seminars. PEDIATRICS

140.22. Ambulatory Pediatrics. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

Cohn

Clinical experience in a busy community hospital Ambulatory Pediatric Clinic to prepare the student for daily patient encounters and responsibilities of pediatric or family practitioners. Teaching of patients in well and ill general pediatrics, well baby, preventive medicine, and pediatric subspecialties. PEDIATRICS

140.23. Neonatal Pediatrics at C. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. **Brady**

Students participate in the care of infants in the intensive care nursery in close association with the house staff, fellows, and senior staff and in conferences conducted by senior staff. PEDIATRICS

140.24. Neonatology at MZ. (1½) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. **R. Ballard**

Experience in normal newborn and intensive care nurseries, according to student's interests and skills. Student participates in the care of transport infants, and on night call. PEDIATRICS

140.25. Developmental and Behavioral Pediatrics. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Gorski**

Newborn through pre-school-age developmental assessments; clinical teaching conferences; literature seminars; consultations in the nurseries and the pediatric ward; day-care experience and seminar; improvement of physician-patient communication skills; clinic for developmental and behavioral problems in 0-3-year-olds. PEDIATRICS

150.02. Human Cytogenetics. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach, F. Conte**

Participation in human cytogenetic studies in children. Emphasis is on laboratory work with exposure to clinical problems and patients. PEDIATRICS

150.04. Research in Pediatrics. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Grumbach and Staff**

Student research projects under guidance of faculty members. Programs must be approved by instructors. Students may initiate or continue research programs under supervision of faculty members. PEDIATRICS

160.01. Clinical Correlation in Pediatrics. (2) Su, F, W, Sp. **Grumbach**

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

198. Supervised Study in Pediatrics. (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 in Pediatrics. (1-5) F, W, Sp. Prerequisite: Consent of instructor. **Grumbach and Staff**

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

400. Pediatric Staff Conference. (1½) Su, F, W, Sp. Interns and residents. **UC Grumbach**

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 Conferences. (1½) 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. Pediatric Clinical Seminar. (1½) Su, F, W, Sp. **UC Grumbach**

Seminar includes review and discussion of selected cases of unusual interest, reports on special topics with review of recent literature, and clinicopathological conferences on pediatric cases. PEDIATRICS

450. Clinical Pediatrics. (1½ per week) Su, F, W, Sp. Interns and residents. **UC Grumbach**

Residents, under supervision, are responsible for patient care in the wards and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis, and treatment. In addition, the chief resident has certain administrative, teaching, and clinical responsibilities. PEDIATRICS

451. Clinical Pediatrics. (1½ per week) Su, F, W, Sp. Residents. **SFGH 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. (1½ per week) Su, F, W, Sp. Prerequisite: Refer to Ambulatory and Community Medicine 462. **Grumbach, Dower**

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

463. Clinical Primary Care. (1½ per week) Su, F, W, Sp. Prerequisite: Refer to Ambulatory and Community Medicine 463.

Grumbach, Dower

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

490. Clinical Pediatrics at SFGH. (1½ per week) Su, F, W, Sp. **SFGH 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. (1½ 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

Pedodontics

109. Clinical Pedodontics. (0-½) F, W, Sp. Prerequisite: Third-year standing. Clinic variable. **M. Morris and Staff**

Clinical diagnosis, plan of treatment, dietary analysis and counseling, fabrication of appliances for and treatment of children requiring tooth guidance, space management, and preventive orthodontics. Units assigned upon completion of clinic requirements. GR DEVEL

109.01. Clinical Pedodontics Rotation. (0-½) F, W, Sp. Prerequisite: Third-year standing. Clinic rotation 12 hours. **M. Morris and Staff**

Introduction to the examination of the child patient, treatment planning, prevention instruction, dietary analysis, and the performance of operative procedures. Proper management of the child patient will be stressed. GR DEVEL

109.02. Pedodontics Rotation. (0-2) F, W, Sp. Prerequisite: Fourth-year standing. Clinic rotation 60 hours. **M. Morris and Staff**

Course is broken up into two components: Mondays, Tuesdays and Wednesdays will be spent at the Dental Annex Clinic; Thursdays and Fridays at the Mobile Dental Clinic in Stockton. GR DEVEL

130A-B-C. Pedodontics. (1-1-1) F, W, Sp. Prerequisite: Operative Dentistry 125A-B. Lecture 1 hour. **M. Morris and Staff**

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

170.01A-B-C-D. Clinical Pedodontics. (0-3, 0-3, 0-3 0-3) F, W, Sp, SS. Clinic variable. **B. Smith**

Clinical experience in comprehensive care of children with congenital or hereditary anomalies. Management of rampant caries and techniques of instruction in home care and caries control. Current techniques in patient management and pain alleviation. Recognition and treatment of developing malocclusion. GR DEVEL

170.02A-B-C. Clinical Pedodontics. (3-4, 3-4, 3-4) F, W, Sp. Prerequisite: Pedodontics 170.01A-B-C-D. Clinic 9-12 hours. **M. Morris and Staff**

Continuation of Pedodontics 170.01A-B-C-D. GR DEVEL

171.01A-B-C. Pedodontic Seminar. (1-5, 1-5, 1-5) F, W, Sp. Seminar 1-5 hours. **B. Smith**

Assigned reading of current and classical literature in pedodontics and allied specialty areas with review and discussion of each reading assignment to prepare student to critically evaluate dental literature. GR DEVEL

171.02A-B-C. Pedodontic Seminar. (2-3, 2-3, 2-3) F, W, Sp. Prerequisite: Pedodontics 171.01A-B-C. Seminar 2-3 hours. **M. Morris and Staff**

Continuation of Pedodontics 171.01A-B-C. GR DEVEL

172A-B-C. Clinic and Seminar. (2-2-2) F, W, Sp. Clinic and Seminar 60 hours. **M. Morris and Staff**

Hospital procedures: admitting, orders, histories, charts and records, laboratory tests, reports, and administrative considerations. Organizing and equipping the hospital operating room for comprehensive dental care of patients under general anesthesia. Clinical experience in treating chronically ill hospitalized patients. GR DEVEL

173. Clinical Pedodontics. (0-6) SS. Prerequisite: Pedodontics 170.02A-B-C. Clinic variable. **M. Morris and Staff**

Students provide dental care for a non-English speaking migrant population, utilizing facilities of the mobile clinic. GR DEVEL

174. Pedodontic Seminar. (2) SS. Prerequisite: Pedodontics 171.01A-B-C. Seminar 4 hours. **M. Morris and Staff**

Seminar on problems attending the care and treatment of non-English speaking children. Modifications of treatment plans to ensure dental care which requires a minimum of professional supervision for maintenance. GR DEVEL

175. Pediatric Oral Surgery. (3) F, **SFGH** 90 hours. **Khosla, Devlin**

Hospital procedures, management of trauma and emergencies involving the primary and young succedaneous teeth. Ex-

tractions, re-implantation, pulp protection, stabilization of luxated teeth, management of infection, and supportive therapy are emphasized. GR DEVEL

176. Pediatric General Anesthesia. (0-3) F. CHMC: 90 hours. **K. Schroeder and Staff**

An introductory course in general anesthesia to familiarize the student with general anesthesia; the attendant problems and risks, the agents used, and methods of delivery. Clinical experience under close supervision. GR DEVEL

177. Pediatric Hospital Dentistry. (2) F, W, Sp. Hospital dentistry 6 hours.

M. Morris, Weis

Students are assigned to an interdisciplinary health care team and are responsible for delivery of dental care for all in-house patients. Definitive dental care is provided on the ward as well as in the operating room. GR DEVEL

178. Advanced Clerkship. (0-18) Sp. Prerequisite: Satisfactory completion of pedodontic specialty requirements in first- and second-year courses. Lecture and Lab variable. **B. Smith**

Course is designed to graduate dentists for limited practice. This advanced clerkship will provide varied clinical experience, skills, and competence for second-year pedodontic students who have successfully completed the requirements considered core to this program. GR DEVEL

180.01B-C. Pedodontic Seminar. (1-1) W, Sp. Prerequisite: Completion of third-year pedodontic lecture series and approval of the Dean. Lecture 1 hour. **B. Smith**

Documented discussions on occlusion, mixed dentition analysis, malocclusions, missing incisors and premolars, hypoplasias, anomalies, injuries, and oral manifestations of systemic disease. Designed for students considering pedodontics as a specialty. Counseling is provided for postdoctoral education. GR DEVEL

185. Advanced Pedodontic Appliance Laboratory. (½-2) F, W, Sp. Prerequisite: Postdoctoral standing or approval of Clinic Review Committee and chairman of the division. Lecture and Lab variable. **Aubuchon**

A laboratory course concerned with the fabrication of interceptive orthodontic appliances currently being employed in pedodontics. GR DEVEL

189.01. Clinical Practice in Pedodontics. (0-9) F, W, Sp. Prerequisite: Pedodontics 130A-B-C and completion of clinical pedodontics and all third-year clinical and didactic courses in operative dentistry. Approval of Clinic Review Committee. Clinic variable. **M. Morris and Staff**

Course provides additional clinical experience in pedodontics. GR DEVEL

189.02. Community Pedodontics. (0-4) F, W, Sp. Prerequisite: Completion of clinical requirements for graduation or approval of Clinic Review Committee. Clinic 0-120 hours. **M. Morris, Stark and Staff**

An elective clinic course in pedodontics. Students provide care for children at selected migrant farm labor camps. Course includes preventive education, comprehensive operative procedures including pulp therapy and necessary minor dental surgery, taking and processing needed radiographs. GR DEVEL

Periodontology

109. Clinical Periodontics. (0-6) F, W, Sp. Prerequisite: Periodontology 121. Clinic variable. **Parr and Staff**

Treatment of periodontal diseases. PERIODONT

110. Periodontics — Recognition. (1) Sp. Lecture 1 hour. **Armitage**

Introduction to the recognition and diagnosis of inflammatory periodontal disease. The pathogenesis of periodontal

disease is discussed from clinical, histopathological, and biochemical points of view. PERIODONT

119. Periodontal Therapy (Introduction). (½) Sp. Clinic five 4-hour periods. **S. Miller**

Introduction to the techniques of supra-gingival scaling and root planing. PERIODONT

121. Periodontal Therapy (Introduction). (1) F. Prerequisite: Periodontology 110. Lecture 1 hour. **Armitage**

Introduction to the rationale and objectives of periodontal therapeutic procedures. Also considered are the recognition and treatment of periodontal disease in children, acute periodontal emergencies, and periodontal considerations in restorative dentistry. PERIODONT

129. Clinical Periodontics. (0-½) F, W, Sp. Prerequisite: Periodontology 110 and 119. Clinic variable, Lab rotation 6 hours. **S. Miller**

Introduction to clinical techniques in oral prophylaxis including plaque control, scaling, root planing. During fall and winter quarters, students provide dental hygiene therapy for senior patients. The spring quarter is utilized for treatment of their own patients. PERIODONT

131. Periodontics. (1) F. Prerequisite: Periodontology 121. Lecture 1 hour. **Parr**

The demonstration and rationale of surgical treatment of periodontal lesions. PERIODONT

150. Periodontics. (2) Sp. Lecture and Demonstration 2 hours. **Lodberg**

Introduction to the oral hygiene problems of the periodontal patient and the means and methods available to the dentist and auxiliaries to motivate the patient to self-care. PERIODONT

160. Periodontics. (1) F. Prerequisite: Periodontology 150. Lecture 1 hour. **S. Miller**

Classification of periodontal diseases and methods of their prevention. Principles of pathology are correlated with therapeutic procedures. A faculty panel discusses the role of the hygienist in dental practice. PERIODONT

161. Periodontics. (1) W. Prerequisite: Periodontology 160. Lecture 1 hour. **S. Miller**
The demonstration and rationale of surgical treatment of periodontal lesions. The role of the dental hygienist in dental practice, especially related to prevention, recognition, and aid in treatment of periodontal diseases. PERIODONT

170A-B-C. Histopathology of the Periodontium. (2-2-2) F, W, Sp. Lecture 1 hour, Lab 3 hours. **Dienstein**

Dynamics of inflammation and its role in the periodontal tissues. PERIODONT

171A-B-C. Clinical Periodontics. (0-8-4) F, W, Sp. Prerequisite: Enrollment in periodontology program. Clinic 12 hours.

Shibata, E. Green and Staff

Clinical procedures in periodontal therapy. PERIODONT

172. Examination and Treatment Planning. (1) F. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. **Parr**

Lectures on examination and treatment planning. PERIODONT

172.01. Hospital Anesthesiology. (6) SS. Prerequisite: Consent of instructor. Seminar 10 hours, Clinic 24 hours. **C. Chang**

Practical course in operating room anesthesia. Instruction in hospital administration, physical and preanesthesia evaluation of the patient, monitoring of vital signs, administration of intravenous psycho-sedation, general anesthesia, and handling of resultant medical emergencies. Clinical instruction is supplemented by seminars. PERIODONT

172.02. Hospital Periodontics. (2) F, W, Sp. Prerequisite: Periodontology 171A-B-C. Lecture 4 hours given in alternate weeks.

Shibata

Clinical periodontics integrated into the regular medical and rehabilitative activities of *MZ*. Course provides patients with quality dental care, appreciation for preventive dentistry, and concept of total health care. Students are exposed to various medical conditions. PERIODONT

173.01. Periodontal Therapy. (2) SS. Prerequisite: Periodontology 171A-B-C. Clinic 60 hours.

Shibata

Clinical procedures in periodontal therapy. This course is an enlargement on earlier clinical experience. PERIODONT

173.02A-B-C. Periodontal Therapy. (4-4-4) F, W, Sp. Prerequisite: Periodontology 171A-B-C. Clinic 12 hours.

Shibata, E. Green and Staff

Advanced clinical procedures in periodontal therapy. PERIODONT

173.03. Periodontal Therapy. (2) SS. Prerequisite: Periodontology 173.02C. Clinic and Seminar 60 hours.

Shibata, E. Green and Staff

Advanced surgical techniques in management of periodontal lesions. PERIODONT

174. Periodontics. (1) SS. Prerequisite: D.D.S. degree. Seminar 1 hour. **Parr**

A seminar to discuss and evaluate the problems common to the specialties of orthodontics and periodontics. PERIODONT

175A-B-C-D. Treatment Planning and Surgery Seminar. (0-3, 0-3, 0-3, 1) F, W, Sp, SS. Seminar 1 hour. **Shibata and Staff**

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They are expected to defend their treatment plan and therapeutic procedure based on relevant literature and clinical experience. PERIODONT

175.01A-B-C-D. Advanced Treatment Planning and Surgery Seminar. (1-1-1-1) F, W, Sp, SS. Seminar 1 hour. **Shibata and Staff**

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience. PERIODONT

176. Original Investigation in the Field of Periodontology. (1-5) F, W, Sp. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. Lab 3-15 hours. **Armitage**

Research. PERIODONT

177. Seminar on Periodontal Surgery. (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. PERIODONT

178A-C. Periodontal Aspects of Occlusion. (1-1) F, Sp. Lecture 1 hour.

E. Green (F), W. H. Noble (Sp)

Course provides a broad concept of the principles of occlusion, upon which definitive therapeutic procedures can be based. PERIODONT

179A. Applied Biochemistry. (2) F. Lecture 2 hours. **Wadell**

Course covers physiology as it relates to anesthesia and periodontal surgery. PERIODONT

180. Periodontics. (1) W. Lecture 1 hour. **Parr**
Implementation of the skills and knowledge of periodontology in the private practice environment. PERIODONT

180.02A-B. Advanced Periodontics. (1-1) F, W. Prerequisite: Periodontology 131 and consent of instructor. Seminar 1 hour. **Kepic**

Study in depth, with literature review and seminar discussions of areas of periodontology having major clinical significance. PERIODONT

180.03. Periodontal Surgical Techniques. (1) F. Prerequisite: Periodontology 131. Lecture 1 hour. **Shibata**

Surgical techniques are presented which may be used to treat lesions occurring in the hard and soft tissues of the periodontium. PERIODONT

181. Seminar on Connective Tissue. (1) W. Prerequisite: Biochemistry 110A-B and 111 or concurrent enrollment. Lecture 1 hour. **Staff**

Biochemical and molecular biological basis of connective tissue growth, development, and disorder. Topics discussed include cleft palate, TMJ, chondrodystrophies, wound healing, periodontal disease, arthritis and fibrotic diseases including arteriosclerosis, cirrhosis, and gingival fibroplasia. PERIODONT

189.01. Clinical Periodontics. (0-9) F, W, Sp. Prerequisite: Periodontology 109. Clinic variable. **E. Green and Staff**

Continuation of clinical experience beyond the level of Periodontology 109. PERIODONT

199. Laboratory Project in Periodontology. (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. PERIODONT

201A-B-C. Experimental Methods in Biological Research. (0-3, 0-3, 0-3) § F, W, Sp. Lecture 0-2 hours. Lab 0-3 hours.

Shibata (F), E. Green (W), Bhatnagar (Sp)
Elements of experimental design, statistical inference, and methods of laboratory and clinical research. PERIODONT

209. Periodontology Literature Review Seminar. (2) § F, W, Sp. Lecture 2 hours. **Staff**

Seminar designed to correlate basic sciences with problems in periodontology and evaluate concepts in the direction of research, clinical application, and teaching. Selected papers in the literature are reviewed and evaluated. Other instructors are invited to participate. PERIODONT

Pharmaceutical Chemistry

120. Principles of Pharmaceutical Chemistry. (3) § F. Prerequisite: Chemistry 113. Lecture 2 hours. Lab 3 hours. **Ortiz de Montellano, R. B. Meyer**

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 **Jorgensen, M. Wolff**

A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on steroids, hormones, and drugs for metabolic disorders. PHARM CHEM

122. Principles of Pharmaceutical Chemistry. (3) Sp. Prerequisite: Pharmaceutical Chemistry 120. Lecture 3 hours. **Brochmann-Hanssen**

A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on drugs affecting the autonomic nervous and cardiovascular systems as well as renal function. PHARM CHEM

132. Principles of Pharmaceutical Chemistry. (3) F. Prerequisite: Pharmaceutical Chemistry 120. Lecture 3 hours. **Brochmann-Hanssen, R. B. Meyer**

A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on drugs affecting the central nervous system. PHARM CHEM

134. Principles of Pharmaceutical Chemistry. (2) W. Prerequisite: Pharmaceutical Chemistry 120 and concurrent enrollment in Pharmacology 134. Lecture 2 hours. **R. B. Meyer**

A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on anti-infective and anti-neoplastic drugs. PHARM CHEM

152. Radionuclides in Biology, Medicine and Pharmacy. (2) § F. Lecture 2 hours. **Peng, D. Price**

Discussion on radionuclides in frequent use in biology and medicine including those used as pharmaceuticals, with emphasis on dosage form design, quality control, clinical application and other related aspects. PHARM CHEM

154. Pharmaceutical Quality Control. (2) W. Prerequisite: Pharmacy 165, Pharmacy 166 or concurrent enrollment. Lecture 2 hours. **Brochmann-Hanssen**

General principles of total quality control applied to the manufacture of pharmaceuticals, introduction to statistical quality control, its application to process studies, and evaluation of dosage forms. Consideration given to simplified quality control systems for small-scale manufacturing and hospital pharmacy. PHARM CHEM

155. Introduction to Computers. (3) F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Langridge**

Introduction to the use of computers, emphasizing nonnumerical applications such as test editing and formatting. No mathematics above college freshman level or experience in the use of computers is required. PHARM CHEM

156. Pharmaceutical Analysis. (2) Sp. Prerequisite: Pharmaceutical Chemistry 151. Lab 6 hours. **Brochmann-Hanssen**

Experiments in pharmaceutical analysis applied to drug entities, dosage forms, and samples of biological origin. PHARM CHEM

157. Bioanalytical Theory and Techniques. (3) Sp. Lecture 2 hours, Lab 3 hours. **Sadee**

Analytical theory and techniques for determining drugs and metabolites in biological fluids. PHARM CHEM

158. Radioisotope Measurements. (1) W, Sp. Prerequisite: Pharmaceutical Chemistry 153 or consent of instructor. Lab 3 hours. **Peng**

Detection and measurement of radionuclides commonly used in biology and medicine. PHARM CHEM

160. Fundamentals in Radioactivity. (2) § F. Lecture 2 hours. **Perez-Mendez**

This course will treat the principles of physical decay in radionuclides, characteristics of nuclear emissions, intersection with matter, and related aspects in radioactivity. PHARM CHEM

162. Radioisotope Imaging. (1) § Sp. Prerequisite: Pharmaceutical Chemistry 153 or consent of instructor. Lecture 1 hour. **D. Price**

This course will treat the theory and methodology in the application of radionuclides to organ imaging in nuclear medicine. PHARM CHEM

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

Group studies of selected topics in pharmaceutical chemistry. PHARM CHEM

198. Supervised Study in Pharmaceutical Chemistry (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 in Pharmaceutical Chemistry. (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

200. Physical Chemical Properties and Biological Activity. (1) § W. Prerequisite: Consent of instructor. Lecture 1 hour. **Kollman**

Lectures and conferences dealing with the relationship between physical properties and biological activity, with special emphasis on the uses of molecular orbital calculations in this connection. PHARM CHEM

201. Advanced Survey of Medicinal Chemistry. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **Jorgensen**

Basic principles of medicinal chemistry and a survey of the relationships between structure and biological action for major drug classes. PHARM CHEM

202. Macromolecular Structure. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours. **Kuntz, Langridge**

A review of protein and nucleic acid structures. Emphasizes the general principles which govern secondary and tertiary structure, with an introduction to the current approaches to this problem for proteins and transfer RNA. PHARM CHEM

203. Drug Metabolism. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **Castagnoli, Sadee**

Study of the *in vivo* and *in vitro* biotransformation of foreign compounds with particular emphasis on drugs. When possi-

ble, detailed chemical and biochemical mechanisms are considered. PHARM CHEM

204. Hormones. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. **M. Wolff, Jorgensen**

Lectures and conferences dealing with structure-function relationships and action of hormones at the molecular level. Special emphasis is given to steroids and peptide hormones. PHARM CHEM

205. Analogs of Nucleic Acid Constituents. (2) § W or Sp. Prerequisite: Organic chemistry and biochemistry recommended. Lecture 3 hours. **R.B. Meyer**

The chemistry and mechanism of action of purines, pyrimidines, their nucleosides and nucleotides, and related derivatives which have anticancer and antimicrobial activity are discussed in detail. PHARM CHEM

208. Advanced Survey of Pharmaceutics. (2) § F or W. Lecture 2 hours. **Benet and Staff**

Basic principles underlying the area of pharmaceutics directed at the needs of graduate students with limited familiarity with pharmaceutical sciences. PHARM CHEM

211. Selected Topics in Pharmaceutical Chemistry. (2) § Sp. Prerequisite: Pharmaceutical Chemistry 120. **Staff**

Reports and discussion of topics of current interest in pharmaceutical chemistry, with emphasis on relationships between chemical structure, physical properties, and biological response. PHARM CHEM

212. Fortran IV Programming and Scientific Software Usage. (3) § F. Lecture 2 hours. Lab 3 hours. **P. Pedersen**

Introduction to Fortran IV. Special emphasis will be on understanding the language with particular emphasis on applications in pharmacokinetics. PHARM CHEM

213. Basic Considerations in the Kinetics of Drug Absorption and Disposition. (3) § F. Prerequisite: Chemistry 115. Calculus background is recommended. Lecture 2 hours, Lab 3 hours. **Oie, C. Hunt**

A basic study of the concentration-time course of drugs and their metabolites, methods of pharmacokinetic analysis, and the design of dosage regimen. Laboratory emphasizes the application of electronic calculators and analog computers. PHARM CHEM

214. Advanced Aspects of the Kinetics of Drug Absorption and Disposition. (3) § W. Prerequisite: Pharmaceutical Chemistry 213 and Biochemistry 202 or equivalents. Lecture 2 hours, Lab 3 hours.

Riegelman, Benet and Staff

Advanced consideration of pharmacokinetics including multicompartment models, assessment of intrinsic absorption and disposition parameters, and correlation of pharmacological response with the concentration-time course of a drug. Laboratory will include analog and digital computational methods. PHARM CHEM

217. Advanced Pharmaceutics. (3) F. Prerequisite: Physical chemistry or consent of instructor. Offered in alternate years. Not offered 1979-80. **Pedersen, Shell, Cooper**

Physical pharmacy of solids and solid forms. PHARM CHEM

218A. Advanced Pharmaceutics. (3) § Sp. Prerequisite: Chemical kinetics or consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1979-80.

C. Hunt, Goyan

A study of the stability of drugs in solution. This course is offered biennially, alternating with Pharmaceutical Chemistry 218B. PHARM CHEM

218B. Advanced Pharmaceutics. (2) § Sp. Prerequisite: Physical chemistry or consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1979-80.

Hoener, Goyan

A study of equilibria phenomena with emphasis on acid-base equilibria and the complexity of drugs and biomacromolecules. This course is offered biennially, alternating with Pharmaceutical Chemistry 218A. PHARM CHEM

219. Enzyme Mechanisms. (1-2) § Sp. Lecture 1-2 hours.

Kenyon, Santi

Selected topics on enzyme mechanisms. General survey of enzyme catalysis: general acid-base catalysis, propinquity effects, strain and conformational change. Covalent intermediates in enzyme catalysis. The role of cofactors in enzyme catalysis. Phosphate transfer reactions. PHARM CHEM

220. Graduate Seminar Program. (1) § F, W, Sp.

Staff

A program involving the presentation of core material in pharmaceutical chemistry in the medicinal chemistry and pharmaceutics pathways. The presentations are made by graduate students and examination is by a series of cumulative examinations. PHARM CHEM

221. Research Conference in Pharmaceutical Chemistry. (1) § F, W, Sp. Prerequisite: Graduate standing in the Department of Pharmaceutical Chemistry. Lecture 1 hour.

M. Wolff

A series of weekly research conferences in medicinal chemistry given by visiting lecturers, faculty, and advanced graduate students. PHARM CHEM

222. Seminar in Physical Chemistry. (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

230A. Spectroscopy. (4) § Sp. Prerequisite: Chemistry 162 or equivalent. Lecture 3 hours, Lab 3 hours. Offered in alternate years. Not offered 1979-80. **Kuntz, Kollman**

The theory and application of molecular electronic and vibrational spectroscopy; optical rotatory dispersion and circular dichroism. PHARM CHEM

230B. Spectroscopy. (3) § Sp. Prerequisite: Chemistry 162 recommended. Lecture 3 hours.

T. James

Theory and application of nuclear magnetic resonance and electron-spin resonance; mass spectrometry. PHARM CHEM

230C. Spectroscopy. (1) § W. Lab 3 hours.

T. James

Laboratory work in nuclear magnetic resonance and electron-spin resonance; mass spectrometry. PHARM CHEM

231. Spectroscopy. (1-4) § W. Prerequisite: Pharmaceutical Chemistry 230B. Lecture 1-4 hours.

T. James

Selected topics in spectroscopy and related areas. Content of the course changes, as in the case of seminars. Course may be repeated for credit. PHARM CHEM

235. Mass Spectrometry in the Life Sciences. (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

240. Radiochemical Synthesis. (1-2) § F, W, Sp. Prerequisite: Consent of instructor. Lab 3-6 hours.

Peng

Theory and techniques related to the synthesis of isotopically labeled organic compounds. Course may be repeated for credit. PHARM CHEM

241. Radiobiochemical Analysis. (1) § W. Prerequisite: Consent of instructor. Lab 3 hours. **Peng**

Experimental techniques related to various aspects of radioassay of biological specimens, biochemical compounds, and drugs isotopically labeled with tritium and/or radio-carbon. PHARM CHEM

242. Radiotracer Methodology. (1) § W. Prerequisite: Pharmaceutical Chemistry 152 or 160, or consent of instructor. Lecture 1 hour. **Peng, Benet, Licko**

Discussions on the theory and principles in the use of radionuclides as tracers in biological systems. Emphasis is on the design of experiments and data evaluation. PHARM CHEM

243. Chemical and Biological Effects of Ionizing Radiation. (1) § Sp. Prerequisite: Pharmaceutical Chemistry 152 or 160, or consent of instructor. Lecture 1 hour. **Peng, J. W. Harris, Painter**

Effects of ionizing radiation on chemical and biological systems will be discussed. 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. Equivalent to Medical Information Science 260. **Langridge**

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. Conferences in Research Planning. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. **Staff**

Discussion and practice in research problem formulation and design selection. Core classes and small group sessions are organized around students' interests by faculty within the area of specialization. PHARM CHEM

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

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

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

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

Pharmacognosy

198. Supervised Study in Pharmacognosy. (1-5) F, W, Sp. **Brochmann-Hanssen**

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 in Pharmacognosy. (1-5) F, W, Sp. **Brochmann-Hanssen**

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

Pharmacology

100A-B. Medical Pharmacology. (3-5) § W, Sp. Prerequisite: Biochemistry 100A-B and Physiology 120 and 125 or equivalents. Lecture 3 hours W, 5 hours Sp. **Trevor**

A systematic presentation of pharmacologic agents based on drug group classification. Major emphasis is on clinically significant aspects of therapeutic effects, toxic effects, and evaluation of drugs. PHARMACOL

121. Pharmacology and Toxicology. (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 and Toxicology. (4) § Sp. Prerequisite: Biochemistry 120A-B and Physiology 120 and 125. Lecture 3 hours. Lab 3 hours. **Hondeghem, 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. **F. Meyers and Staff**

Objective of the course is to acquaint dental and dental hygiene students with the fundamentals of pharmacology. Various classes of drugs are examined in regard to actions, absorption, fate, excretion, and toxicity. Agents useful in dentistry are emphasized. PHARMACOL

130. Toxicology. (2) § W. Prerequisite: Pharmacology 125 and 136. Lecture 2 hours. **Hine, Hodge, F. Meyers, Piper, Vore**

The occurrence, mode of action, recognition, and treatment of poisoning by environmental chemicals and therapeutic agents. PHARMACOL

134. Pharmacology and Toxicology. (1) § W. Prerequisite: Concurrent enrollment in Pharmaceutical Chemistry 134. Lecture 1 hour. **Trevor, Apple**

Systematic survey of action and uses of anti-infective and antineoplastic drugs. PHARMACOL

136. Pharmacology and Toxicology (4) § F. Prerequisite: Pharmacology 125. Lecture 3 hours, Lab 3 hours. **Burkhalter and Staff**

Systematic survey of action and uses of drugs acting on the central nervous system. PHARMACOL

150.01. Pharmacology Research. (1½ 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 Course. (1-4) F, W, Sp. Prerequisite: Consent of instructor. **Staff**

Group studies of selected topics in pharmacology. PHARMACOL

170.01. Experimental Techniques in Pharmacology. (1-5) SS. Prerequisite: Consent of instructor and completion of biochemistry, physiology, and pharmacology courses.

Loh, Trevor

Practical laboratory experience to acquaint the student with biochemical and physiological techniques used in the study of drug action in systems from the subcellular level to the intact animal. PHARMACOL

193. Special Topics in Pharmacology and Toxicology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours.

Staff

A seminar course covering various aspects of pharmacology and toxicology. PHARMACOL

198. Supervised Study in Pharmacology. (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 in Pharmacology. (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-B-C. General Pharmacology. (3-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **Trevor, Katzung, Loh**

Lecture-conference dealing with fundamental aspects of interactions between chemical compounds and the components of biological systems. Mechanisms of drug action at molecular, biochemical, membrane, tissue, and organ levels of the cardiovascular, muscular, and central nervous systems are considered. PHARMACOL

208. Biochemistry of Oxidative Drug Metabolism. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours.

Vore-Iwamoto, Ortiz de Montellano, Correia

The biochemical, regulatory and chemical aspects of mixed-function oxygenases with particular emphasis on cytochrome, P-450. PHARMACOL

209. Molecular Mechanisms of Action of Biologically Active Substances. (3) § F, W, or Sp. Prerequisite: Consent of instructor.

Kun

Advanced biochemical experimentation and theories concerning the mechanism of action of biologically active substances on a macromolecular level. The content of the course, beyond certain theoretical material, varies with each participant and consists of guided experiments in novel subjects. PHARMACOL

210A-B-C. Introductory Toxicology. (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.

Hine, Hodge, F. Meyers, Piper, Embree

Introductory toxicology divided into the following three components: toxicity testing procedures; environmental toxicology, selected topics; and clinical toxicology, current developments. PHARMACOL

211A-B-C. Advanced Toxicology. (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour.

Hine, Hodge, F. Meyers, Piper, Embree

A detailed examination of the field of toxicology as it relates to agricultural, environmental, forensic, industrial, military, regulatory and therapeutic problems. Emphasis is placed on mechanism of action of toxic substances. Current advances and classical concepts of toxicology are presented. PHARMACOL

220. Seminar. (0-1) § F, W, Sp. **Staff**

Seminars to discuss present methods and problems in current teaching and research in pharmacology and toxicology. PHARMACOL

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

292. Physiological Techniques in Pharmacology. (3) § F, W, or Sp. Prerequisite: Survey course in pharmacology or consent of instructor. Lab 9 hours.

Hondeghem, Katzung

Principles and applications of physiological techniques used in the study of drugs. Emphasis is on the study of cardiovascular and autonomic agents. PHARMACOL

296. Laboratory Techniques in Toxicology. (2) § Sp. Lab 6 hours. **Hodge and Staff**

Principles and application of experimental techniques in the evaluation of the toxicologic hazards of drugs and environmental chemicals: techniques for testing acute and chronic toxicity, skin irritation and sensitization, mutagenesis and carcinogenesis will be covered. 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. Practicum in Teaching. (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) F. Conference 3 hours. **Lem**

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) W. Prerequisite: Pharmacy 111. Conference 3 hours. **Lem and Staff**

Continuation of Pharmacy 111. PHARMACY

113. Non-Prescription Products. (1) Sp. Prerequisite: Pharmacy 112. Conference 3 hours. **Lem and Staff**

Continuation of Pharmacy 112. PHARMACY

114. Biopharmaceutics and Physical Pharmacy. (3) F. Prerequisite: Concurrent enrollment in Chemistry 115. Lecture 3 hours **Hoener, K. Jacoby**

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 and Physical Pharmacy. (4) W. Prerequisite: Pharmacy 114 and concurrent enrollment in Chemistry 116. Lecture 3 hours. Lab 3 hours.

C. Hunt, Shell, R. Day

Continuation of Pharmacy 114 with the addition of laboratory preparation of basic drug delivery systems. PHARMACY

116. Biopharmaceutics and Physical Pharmacy. (4) Sp. Prerequisite: Pharmacy 115. Lecture 3 hours, Lab 3 hours.

Pedersen, Hoener, R. Day

Continuation of Pharmacy 115. PHARMACY

127. Biopharmaceutics and Dispensing. (4) F. Prerequisite: Pharmacy 116 and Pharmacy Administration 112. Lecture 2 hours. Lab 6 hours. **H. Spencer, R. Day, K. Jacoby**

Continuation of Pharmacy 116 with the addition of training in the professional and dispensing aspects of pharmacy. PHARMACY

128. Pharmacokinetics. (3½) W. Prerequisite: Pharmacy 116. Lecture 3 hours, Conference 1-2 hours. **Oie, Tozer**

Course covers the pharmacokinetic basis of variability in the therapeutic, pharmacologic, and toxicologic effects of drugs. PHARMACY

129. Pharmacokinetics. (3½) Sp. Prerequisite: Pharmacy 128. Lecture 3 hours, Conference 1-2 hours. **Tozer, Oie**

Continuation of Pharmacy 128. PHARMACY

133. Biologic Products. (3) Sp. Prerequisite: Third-year standing. Lecture 3 hours.

K. H. Lee

A study of food and nutrition for all age groups. Diet therapy is discussed.

PHARMACY

151. Community Health Education. (2) Sp. Lecture and Discussion 2 hours. Participation in at least four community health education programs. **H. Spencer**

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

155. External Drug Products. (4) Sp. Prerequisite: Consent of instructor. Lecture 2 hours, Lab 6 hours. **T. Schwarz**

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

161. Biologic Products. (2) W. Prerequisite: Third-year standing. Lecture 2 hours.

K. H. Lee

A discussion of the pharmaceutical aspects and evaluations of the therapeutic values of biologic preparations in current clinical use, including enzymes, blood and its derivatives, plasma substitutes, hematologic preparations, and biologic products. PHARMACY

164. Veterinary Products. (3) Sp. Prerequisite: Microbiology 125, Pathology 135, Pharmacology 136 and Pharmacy 116. Lecture 3 hours. **Spinelli**

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 dispensing. PHARMACY

165. Pharmaceutical Technology. (3) F. Prerequisite: Pharmacy 116. Lecture 1 hour, Lab 6 hours. **R. Gibson, Cooper, Blake**

An introduction to the technology of liquid and semisolid pharmaceuticals. Special emphasis is given to the problems encountered and the materials used in pharmaceutical manufacturing. PHARMACY

166. Pharmaceutical Technology. (3) W. Prerequisite: Pharmacy 165. Lecture 1 hour, Lab 6 hours. **R. Gibson, Cooper, 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. **R. Gibson, Cooper, Blake**

An advanced study of the relationship of the art and science of pharmaceutical technology to solid dosage forms. PHARMACY

168. Seminar in Clinical Pharmacokinetics. (2) F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor. Reports and Conferences 6 hours. Enrollment limited. **Tozer, Riegelman**

Discussion and review of the literature on the clinical application of pharmacokinetic principles in drug therapy. PHARMACY

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

Group studies of selected topics in pharmacy. PHARMACY

170.01. Listening and Talking to Patients. (2) Sp. Prerequisite: Consent of instructor. Lecture 1 hour, Lab 3 hours. **G. Stone**

An introductory course emphasizing patient interviewing. Small group techniques are used to develop and test communication skills. Observation of numerous patient communication and social problems with

opportunities to videotape student interactions and interviewing responses. PHARMACY

170.02. Special Topics in Pharmaceutics. (2) Sp. Prerequisite: Pharmacy 116 or concurrent enrollment. Lecture 2 hours. **P. Pedersen**

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

180. Drugs and Society. (3) W. Prerequisite: Basic course sequence in pharmacology and consent of instructor. Lecture 3 hours. Enrollment limited. **M. Silverman**

An analysis of the roles of the drug industry, pharmacy and medical professions, trade associations, governmental agencies, the Congress, consumer groups, and the press in the development, safety, efficacy, quality, advertising, prescribing, and pricing of selected drugs. PHARMACY

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

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

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

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

475. Parenteral Products. (3) F, W, Sp. Prerequisite: Pharmacy 127. Lecture 2 hours, Lab 3 hours. **T. Schwarz, C. Jackson**

Introduction to the formulation and technology of parenteral preparations. Laboratory includes participation in hospital activities in which parenterals are made and administered. PHARMACY

Pharmacy Administration

111. Pharmacy Laws. (2) F. Lecture 2 hours. **J. R. Nielsen**

Introduction to court systems and administration boards and their relationship to the health professions. Discussion of basic principles of criminal law, negligence, and business law with particular emphasis on the legal relationship and responsibility of the practitioner to the patient. PHARMACY

112. Pharmacy Laws. (2) W. Lecture 2 hours. **J. R. Nielsen**

A detailed examination of federal and state drug, cosmetic, and narcotic laws; their promulgation, enforcement, and effect upon the practice of pharmacy. Course involves some administrative work. PHARMACY

150. Marketing. (4) W. Lecture 4 hours. **Staff**

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: Pharmacy Administration 150 and 155. Lecture 4 hours. **Staff**

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. **Staff**

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. Family and Business Law for the Health Professional. (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 Course. (1-4) F, W, Sp. Prerequisite: Consent of instructor. **Staff**

Group studies of selected topics in pharmacy administration. PHARMACY

180A-B-C. Legal Problems Related to Health Care. (2-2-2) F, W, Sp. Prerequisite: Third-year standing. Pharmacy Administration 180A is prerequisite to 180B, and 180B to 180C; but completion of entire sequence is not required.

J. R. Nielsen

Conducted in cooperation with law students who are teamed with students from professional schools on this campus to investigate assigned problems of their respective disciplines, with particular emphasis upon the legal implications arising therefrom. PHARMACY

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

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

Physical Therapy

100A. Anatomy. (4) F. Prerequisite: Anatomy 102 or equivalent. Lecture 2 hours, Lab 6 hours.

Nordschow

Course is designed to present the foundation of the structure and function of the human body with emphasis in lecture and laboratory on topographical, skeletal, vas-

cular, and neuromuscular aspects. Dissection of the upper limb, neck, and trunk is emphasized. PHYS THER

100B. Anatomy. (2) W. Prerequisite: Physical Therapy 100A. Lecture 1 hour, Lab 3 hours.

Nordschow

Course is designed to present the foundation of the structure and function of the human body, with emphasis in lecture and laboratory on topographical, skeletal, vascular, and neuromuscular aspects. Review plus dissection of the lower limb are stressed. PHYS THER

101A. Pathology. (3) F. Lecture 3 hours.

Biava

A general summary of the fundamentals of pathology with special emphasis on the correlation between pathological processes and the clinical signs, symptoms, and course of diseases. Gross pathology is demonstrated and autopsy material is available. PHYS THER

102A. Physiology. (3) F. Prerequisite: General human physiology or equivalent. Lecture 3 hours.

Korenbrot

A review of certain aspects of human physiology, with special emphasis on the cardiovascular system and metabolism. Specific aspects of pathological physiology are considered, especially in relation to stroke and heart disease. Applications of physical principles to physiology are discussed. PHYS THER

103A. Neuroanatomy. (2) F. Lecture 1 hour, Lab 3 hours.

Garoutte

The development of the human nervous system with special reference to structure and functional relationships. ANATOMY

104A. Physical Therapy Procedures I. (6) F. Prerequisite: Introductory physics. Lecture 3 hours, Lab 9 hours.

Puglisi

Lectures and laboratory practice in electrotherapy, kinesiology, and tests and measurements. Emphasized are therapeutic

uses of electricity in certain pathologic conditions, analysis of musculoskeletal function in normal and abnormal states, methods of performing, recording and interpreting testing and measuring procedures. PHYS THER

104B. Physical Therapy Procedures II. (6) W. Prerequisite: Physical Therapy 104A. Lecture 3 hours, Lab 9 hours.

Puglisi

Lectures, demonstrations, and laboratory practice in hydrotherapy, massage, and therapeutic exercise. Emphasized are therapeutic uses of water and massage techniques applied to various pathologic problems and techniques of administration of exercises commonly used in orthopaedic, medical, and neurological conditions. PHYS THER

104C. Physical Therapy Procedures III. (6) Sp. Prerequisite: Physical Therapy 104A and 104B. Lecture 3 hours, Lab 9 hours.

Puglisi

Lectures and laboratory practice in therapeutic exercise. Emphasized are methods of evaluating the patient and planning his program, use and care of assistive devices in rehabilitation of the handicapped, use and evaluation of changing concepts, and special techniques of exercise. PHYS THER

105B. Physical Medicine and Rehabilitation. (3) W. Lecture 3 hours.

Ranallo

Lectures and clinical demonstrations concerning peripheral vascular problems, geriatric patients, various types of arthritis, muscular dystrophy, spinal cord injury, cerebrovascular accidents, the brain-damaged child, neck pain, and back pain. PHYS THER

106B. Clinical Medicine I. (5) W. Lecture 5 hours.

F. Schiller, J. Schneider

Lectures and clinical presentations of medical and neurologic patients are designed to increase the student's understanding of the basic interrelationship of

structure and function of the various body systems. Conditions requiring physical therapy treatments are fully discussed. **PHYS THER**

106C. Clinical Medicine II. (5) Sp. Prerequisite: Abnormal psychology or equivalent. Lecture 5 hours. **G. Strange**

Lectures in orthopaedic surgery, pediatrics, psychiatry, surgery, obstetrics, gynecology, geriatrics, and dermatology are presented by physicians in these specialties. **PHYS THER**

107B. Neuromuscular Physiology. (2) W. Lecture 2 hours. **Garoutte**

A study of the physiology of striated muscle and peripheral nerve in relationship to controlling mechanisms within the central nervous system. Special emphasis is given to the physiological disturbances which occur in various types of human motor disability. **ANATOMY**

108C. Basic Medical Procedures. (2) Sp. Lecture 1 hour, Lab 3 hours. **Nordschow**

The study of procedures necessary for the total care of patients. **PHYS THER**

109C. Principles of Professional Practice and Administration. (5) Sp. Lecture 2 hours, Lab 9 hours. **Gilbert**

A study of professional attitudes and obligations and the organization and administration of a department of physical therapy. Laboratory work includes observation in outpatient clinics and a clerkship in an approved hospital by special arrangement of the clinical supervisor. **PHYS THER**

170.02. Survey of Congenital Defects. (2) W. Prerequisite: Gross anatomy course and consent of instructor. **Monie**

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

410D. Clinical Clerkship. (14) Su, Prerequisite: Completion of all physical therapy courses in curriculum sequence.

Gilbert and Staff

Clinical clerkships consisting of one-month assignments in three different institutions or agencies. Under supervision, students participate actively in clinical evaluation and care of patients. Clinical clerkship lectures are also included. **PHYS THER**

Physiology

100. Organ System Physiology. (6) § W. Prerequisite: Anatomy 100 and 102, and concurrent enrollment in Biochemistry 100A-B; or consent of instructor. Lecture 4 hours, Conference 2 hours, Lab 4 hours. **Ramsay**

Normal function of the cardiovascular, respiratory, renal, and gastrointestinal 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. (4) § Sp. Prerequisite: Anatomy 100 and Biochemistry 100A-B, or consent of instructor. Lecture 3 hours, Lab 3 hours. **M. Dallman**

The structure and function of the endocrine glands and selected aspects of endocrine pharmacology and pathology are studied in lectures, demonstrations, and clinical conferences. **PHYSIOLOGY**

110. Integrative and Nutritive Systems. (6) § Sp. Prerequisite: College level biology, physics, and chemistry, or consent of instructor. Lecture 5 hours, Conference 3 hours. **Rothman**

Introduction to organ systems with emphasis on nervous, endocrine, circulatory, respiratory, and alimentary function in

vertebrates. Importance of organ systems for the success of multicellular forms serves as focus. Fundamental cell processes are also discussed, emphasizing differentiated function. **PHYSIOLOGY**

120. Mammalian Physiology. (3) § W. Prerequisite: Physiology 125 required for students in School of Pharmacy; may be taken separately by graduate students with consent of instructor only. Lecture 3 hours.

S. Sampson

Study of the integrative systems of the mammalian organism, particularly the nervous and endocrine systems. **PHYSIOLOGY**

125. Mammalian Physiology. (7) § F. Prerequisite: Consent of instructor. Lecture 5 hours, Conference 2 hours, Lab 4 hours.

Mines

Introduction to mechanisms by which mammals, especially man, function. The interaction of internal and external environments and their relationship to the functions of cells and muscular, circulatory, respiratory, gastrointestinal, and excretory systems. **PHYSIOLOGY**

150. Research in Physiology. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture and Lab to be arranged.

Staff

Individual research in endocrinology, respiratory physiology, neurophysiology, cardiovascular physiology, cell physiology, or other areas offered by individual staff members. **PHYSIOLOGY**

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

Ganong and Staff

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

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

Ganong and Staff

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

200. Tutorial in Physiology. (0) § F, W, Sp. Prerequisite: Consent of instructor.

Ganong and Staff

Directed reading organized in seminar or tutorial fashion to review aspects of physiology under supervision of a member of the faculty. **PHYSIOLOGY**

201. Physiology of Vision. (2) § Sp. Prerequisite: Anatomy 103 or Physiology 110 or equivalent, or consent of instructor.

K. Brown

Study of mechanisms underlying vision. Consideration is given to chemistry and anatomy of the visual system, but the emphasis is on neurophysiology, with coverage of the visual system from the photoreceptors to the visual cortex. **PHYSIOLOGY**

204. Seminar: Topics in Physiology. (1) § W. Prerequisite: A minimum of six units of introductory physiology. Seminar 1 hour.

Rothman

This seminar discusses selected topics in cellular and integrative physiology. Readings are drawn from primary and secondary sources. **PHYSIOLOGY**

206. Advanced Kidney and Electrolyte Physiology. (2-3) § Sp. Prerequisite: Physiology 100 or 125 and consent of instructor. Lecture 2-3 hours. Offered in alternate years. Offered 1979-80.

C. Berry

Current theories regarding renal hemodynamics and regulation of whole body acid-base, electrolyte and fluid balance will be discussed. Emphasis will be placed on the transport mechanisms operating across renal tubular membranes. **PHYSIOLOGY**

207. Neuroendocrinology. (1-3) § Sp. Prerequisite: Endocrinology and neural sciences or consent of instructor. Lecture 1-3 hours. Course may be repeated for credit. Course will not be offered for less than four students.

M. Dallman

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

209. Physiology of the Auditory, Vestibular, and Other Sensory Systems. (2) § Sp. Prerequisite: Anatomy 103 or equivalent. Lecture 2 hours.

Merzenich

Lecturers and demonstrations provide basic information on the physiology of the auditory system, vestibular system, chemical senses, and somatosensory system. Material includes historical and current concepts derived from relevant psychophysics, neuroanatomy, and neurophysiology. **PHYSIOLOGY**

210. Cellular Mechanisms of Hormone Secretion. (2) § Sp. Prerequisite: Physiology 101 or consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1979-80.

J. A. Williams

Discussion of current literature pertaining to the mechanism of hormone synthesis, packaging, and release. **PHYSIOLOGY**

221. Advanced Cardiovascular, Renal, and Pulmonary Physiology. (2) § F, W, Sp. Prerequisite: Physiology 100 or equivalent. Lecture 2 hours.

Coleridge

Course includes critical reviews of topics of current importance, presentation of unsolved problems by staff, and critical evaluation of published articles by the group. The total program is presented over six successive quarters. **PHYSIOLOGY**

222. Endocrinology Seminar. (1) § F, W, Sp. Seminar 1 hour.

Ganong

Guest lectures alternating with reports of research in progress by members of the graduate group in endocrinology. A different topic of endocrinological interest is the subject of guest presentations each quarter. Course may be repeated for credit. **PHYSIOLOGY**

223. Seminar. (1) § Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Course may be repeated for credit.

Ganong

Seminar presentations by guest lecturers, alternating with discussion by Physiology staff members of their current research. Each quarter, a different topic of physiological interest is the subject of guest presentations. **PHYSIOLOGY**

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

Ganong and Staff

PHYSIOLOGY

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

Ganong and Staff

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

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

Ganong and Staff

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

300. Practicum in Teaching Physiology. (0) § F, W, Sp. Prerequisite: Previous training in physiology and consent of instructor. Lecture and Lab variable.

Ganong and Staff

Practice in teaching physiology under faculty supervision. Students 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) § F, Sp. Prerequisite: Consent of instructor. Seminar 3 hours. **Coleridge**

A seminar workshop designed to show the predoctoral or postdoctoral fellow how to best put into words, tables and figures work done in the laboratory, and how to do so in a concise, precise, and logical form. **PHYSIOLOGY**

302. Group Practice in the Art of Lecturing. (0) § F, W. Prerequisite: Consent of instructor. Lecture 1½ hours. Enrollment limited. **Staub, Comroe**

A course in teaching techniques. Students present short lectures, and videotapes of these presentations are analyzed by self- and group-criticism. **PHYSIOLOGY**

Preventive Dentistry and Community Health

121. Research Design. (1) F. Lecture 1 hour. **Wycoff**

Course presents basic principles of biostatistics. Introduces the concept of experimental reliability, fundamental principles of sampling techniques, selection of data, and variability. The student plans, develops, and writes a research protocol. **GEN DENT**

180.01. Practice Management of Doctor and Patient Relationships. (1) F, Sp. Seminar 1 hour. **S. Gold**

Participatory seminars utilizing role playing, open discussions, and exercises to study interpersonal relationships in dentistry. Topics covered include active listening, effective ways of communicating, and creative conflict-solving. **GEN DENT**

188.01. Community Health Methods. (0-9) F, W, Sp. Seminar and Clinic variable. **Tardif**

Students work in the Guadalupe Health Center, providing dental care in a community setting of comprehensive health care. **GEN DENT**

188.02. Community Health Methods. (0-9) SS, F, W, Sp. Seminar and Clinic variable. **Ino (SS), Darke (F, W, Sp)**

Students work at the South of Market Health Center, a satellite to SFGH, providing dental care in a community setting of comprehensive health care. **GEN DENT**

199. Laboratory Project in Preventive Dentistry and Community Health. (1-5) F, W, Sp. Prerequisite: Consent of instructor. **Wycoff, Silverstein**

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

Psychiatry

100A-B. The Behavioral Science Basis of Psychiatry and Medicine. (2-1) F, W. Lecture 1 hour F. Lab 3 hours. F, W. **M. Horowitz, Malinak (F), C. Brodsky, I. Feinberg (W)**

Introduction to the basic science underpinnings of clinical psychiatry in the three main knowledge areas of biological science, psychological science, and social science; and clinical medicine with emphasis on the psychological and social aspects of health and disease. **PSYCHIATRY**

110. Core Clerkship in Psychiatry. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Psychiatry 100A-B and 131A-B. **Huberman**

Four-week assignment to a psychiatric service. Students, under supervision, are responsible for patient evaluation, participation in treatment planning. They attend seminars related to clinical work, and make field visits to other types of psychiatric facilities. **PSYCHIATRY**

131A-B. Introduction to Clinical Psychiatry. (2-2) W, Sp. Lecture 1 hour, Seminar 2-3 hours. **M. R. Harris**

Introduction to psychiatry as a clinical discipline. Basic behavioral science data is presented. Focus is on interviewing techniques, normal psychological development, description and treatment of psychopathological syndromes, and discussion of the interface between psychiatry and medicine. Videotaped lectures, patient interviews, small group seminars. **PSYCHIATRY**

135. Psychiatric Aspects of Medical Practice. (0) Su, F, W, Sp. Prerequisite: Satisfactory completion of the first and second years in the School of Medicine as specified in the prerequisites for the 110 clerkships listed below. Clinical seminar 2 hours. **D. Rosen, M. Lipp**

The Psychiatric Aspects of Medical Practice is a weekly two-hour clinical seminar, and a required part of the following clerkships: Ambulatory and Community Medicine 110, Medicine 110, Neurology 110, Obstetrics, Gynecology and Reproductive Sciences 110, Pediatrics 110 and Surgery 110. **PSYCHIATRY**

140.01. Advanced Clinical Clerkship in Psychiatry. (1½ per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry. **Boatman**

Participation, with supervision of attending and resident staff of the Department of Psychiatry, in psychiatric assessment, treatment and/or consultation with adult or child inpatients or outpatients. Seminars, assigned reading and case presentations may be required. **PSYCHIATRY**

140.02. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry. **Boatman**

Clinical clerkship in off-campus hospitals, approved by the chairman of the department and the Dean. PSYCHIATRY

140.04. Psychiatric Clerkship at VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry. **G. Solomon**

Course provides clinical clerkships in psychiatry within the Fresno community mental health system, and includes inpatient, crisis, and rural services with individualized supervision. A limited number of housing accommodations or stipends are available. PSYCHIATRY

140.05. Clinical Psychiatry. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry. **Boatman**

Participation, under close supervision in accordance with student's level of experience and special interests, in clinical psychiatric treatment of adult or child inpatients or outpatients. PSYCHIATRY

150.01. Psychiatric Research. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry. **Callaway**

Participation according to students' level of experience in experimental work in areas such as neurophysiology, operant conditioning, psychophysiology, immunochemistry, and nonlexical communication. All work is under the close supervision of members of the faculty. PSYCHIATRY

150.02. Block Elective in Human Development. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry. **Fiske and Staff**

Guided reading and research in human development. Work may focus on culture and personality studies; social psychology of human development; socialization including the role of values; adaptive pro-

cesses across the adult life course. Refer to Human Development and Aging courses. PSYCHIATRY

150.03. Clerkship in Human Sexuality. (1½ per week) Su, F, W, Sp. Prerequisite: Psychiatry 180 and consent of Department of Psychiatry. **Gendel**

An introduction to sexual functioning, sexual dysfunctions and their treatment, the spectrum of human sexual experience, and students' own sexual values. A paper or project will be required. PSYCHIATRY

160.01. Psychopathology of Speech and Language. (2) F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Lecture 1 hour, Lab 3 hours. **Ostwald**

A clinical course focusing on speech and language pathology. Students' eligibility depends on previous experience with psychiatric patients and interest in specific problems of communication. Patients with characteristic syndromes will be interviewed and suitable treatment procedures performed under supervision. PSYCHIATRY

160.03. Demonstration of Psychotherapy with Outpatients. (2) W, Sp. Prerequisite: Psychiatry 131A-B or consent of instructor. Lecture 2 hours. **Berblinger**

Students observe psychotherapeutic sessions with outpatients who are under intensive treatment. The observation session is followed by a seminar discussion. The purpose of the course is audiovisual participation in and viewing of models of intensive psychiatric treatment. PSYCHIATRY

160.07. Psychotherapy for Outpatients. (2-7) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Lecture 2 hours. Lab 0-15 hours. **Amini**

Practical experience in psychotherapeutic work with outpatients to increase students' understanding of psychopathology, psychodynamics, and psychotherapeutics. Students are assigned patients

under supervision of a member of the faculty. Assigned reading, seminars, and chart writing. PSYCHIATRY

160.08. Psychosomatic Case Conference. (1½) F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Lecture 1½ hours. **Murphey**

Cases are presented in rotation by social work students. Emphasis is placed on the interrelationship between psychological, social, and somatic factors. Although primarily intended for social work students, course may be taken by psychiatric residents and other mental health professionals. PSYCHIATRY

160.11. Psychotherapeutic Interview Techniques. (4-5) F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Lecture 4-5 hours. **Ostwald**

Individual and group supervision of clinical work with patients. The focus is on developing rapport, obtaining relevant information, and establishing a satisfactory therapist-patient relationship. Supplementary reading may be assigned. PSYCHIATRY

160.13. Hysteria. (2) F, W. Prerequisite: Consent of instructor. Lecture 2 hours. **Berblinger**

Seminar course designed for students who intend to enter primary care and non-psychiatric specialties. Emphasis is on the diagnosis and management of the hysterical personality in medical practice. Clinical case material will serve as a basis for assigned reading. PSYCHIATRY

160.14. Health Aspects of Human Sexuality. (2) § Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Lecture 16 hours, Seminar 4 hours. Course is given over a weekend. **Gendel**

A consideration of human sexuality as an integral part of health. Emphasis is on accurate information regarding the range of human sexual behavior, and the typical sexual concerns of patients. PSYCHIATRY

160.15. Sex Therapy: Principles and Practice. (2) § Su, F, W, Sp. Prerequisite: Psychiatry 160.14 or 180. Consent of instructor. Lecture 20 hours. Course is given over a weekend. **Gendel and Staff**

A didactic experimental overview of the etiology and nosology of functional sexual problems and of the principles underlying treatment. Lectures, clinical demonstrations, and group process are included. PSYCHIATRY

160.17. Sexuality and Disability. (1) Su, F, W, Sp. Prerequisite: Psychiatry 160.14 or 180, and consent of Department of Psychiatry. Lecture 12 hours. Course is given over a weekend. **Gendel and Staff**

Course covers the role of sexuality in rehabilitation of the physically and mentally handicapped, and principles of sexual counseling of the handicapped. Lectures, films, seminar, and community resource people will be involved. PSYCHIATRY

170.01 Introduction to the Study of Suicide. (2) F. 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

170.03. Behavioral Specialist Pathway Elective. (2-6) F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry. Lecture 2-6 hours. **Boatman**

Students in the Behavioral Specialist Pathway elect individual or group study of a topic not included in other formal courses. Supervised reading, research, field-work, and clinical assignments are given in accordance with the student's level of interest and experience. PSYCHIATRY

170.06. Research in Human Sexuality. (2) Su, F, W, Sp. Prerequisite: Psychiatry 160.14 or 180, and consent of Department of Psychiatry. Lecture 1 hour, Lab 3 hours.

D. H. Wallace

Collaboration or directed research in various topics related to human sexuality. PSYCHIATRY

170.07. Mental Health Aspects of Social, Physical, and Sensory Deprivation. (2) § W. Prerequisite: Consent of Department of Psychiatry. Lecture 2 hours.

H. Schiesinger, Meadow, Brinich

Compares and contrasts influences of cultural, physical, social, and sensory deprivation on cognitive and emotional development. Emphasis on social stigma and family response to handicapped child; nature of problems and treatment of handicapped groups, development and utilization of community resources. PSYCHIATRY

170.15. Psychological Aspects of Psychosis. (1½) Sp. Prerequisite: Consent of Department of Psychiatry. Lecture 1½ hours. **I. Feinberg, G. Fein**

Exploration of the current status of research in schizophrenia, chronic brain syndrome in the elderly, and acute brain syndromes. PSYCHIATRY

170.16. Studies in Self-Destructive Behavior. (1-3) F, W, Sp. Prerequisite: Psychiatry 170.01 and consent of Department of Psychiatry. Lecture 1-3 hours. Lab as required. **Motto**

Continuation of the study of mortality and morbidity resulting from self-destructive behavior. Subjects to be covered and the method of study are determined by the interests of the students. PSYCHIATRY

180. Human Sexuality and Medical Practice. (2) W. Course is given over two consecutive weekends. **Gendel**

Social, behavioral, and clinical aspects of human sexuality are covered in a series of lectures and seminar periods. Lectures present didactic material and seminars focus on clinical and ethical problems related to sex and medical practice. PSYCHIATRY

182. Transcultural Psychiatry. (1) F. Sp. Prerequisite: Psychiatry 100A-B or equivalent psychiatry experience, and consent of Department of Psychiatry. Seminar 1½ hours.

Hartog

A series of seminars discussing transcultural psychiatry from entering the alien community and epidemiology to folk healing. The relevance to American urban and ethnic issues is emphasized. Examples, problems, methodology, and possibilities for research are also presented. PSYCHIATRY

185. Women's Sexual Health Education Seminar. (1) § F, W, Sp. Lecture 16 hours, given over two days. **D.H. Wallace**

Female sexuality is studied as an entity of its own, rather than merely a response to male sexuality. Emphasis is on increasing personal knowledge through the study of physiological, psychological, social and cultural influences on sexuality, both historical and current. PSYCHIATRY

198. Supervised Study in Psychiatry. (1-5) F, W, Sp. Prerequisite: Consent of Department of Psychiatry. **L. J. Epstein and Staff**

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

199. Laboratory Project in Psychiatry. (1-5) F, W, Sp. Prerequisite: Consent of Department of Psychiatry. **L. J. Epstein and Staff**

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

200A-B-C-D-E-F-G-H-I. Mental Health Practicum — Outpatient Services. (3-8 per section) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1-3 hours. Lab 6-15 hours. **Wanerman**

Supervised practicum in diagnosis and treatment of psychiatric outpatients. Students are responsible for diagnostic evaluations, treatment planning, psychiatric consultations, and ongoing psychotherapy. Course includes instruction concerning appropriate use of psychopharmacologic agents, outpatient team meetings, rounds, case conferences and seminars. PSYCHIATRY

201A-B-C-D-E-F-G-H-I. Mental Health Practicum — Children's Service. (1-5 per section) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 0-2 hours. Lab 3-9 hours. **Spielman**

Supervised practicum in provision of psychiatric services for children. Course includes diagnostic evaluations, treatment planning, ongoing psychotherapy of children and their families, consultative work with school personnel, pediatricians, case conferences and seminars relating to child psychiatric services. PSYCHIATRY

202A-B-C. Mental Health Practicum — Inpatient Services. (5-5-5) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1½ hours. Lab 11 hours. **Rubenstein**

Under supervision, students assume responsibility for care of psychiatric inpatients. Course includes individual psychotherapy, group, family and milieu therapy, instruction in the use of psychoactive medications, administrative issues in patient management, working with other ward staff and related seminars. PSYCHIATRY

203A-B-C. Mental Health Practicum — Psychiatric Emergency Services. (3-3-3) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1½ hours. Lab 4½ hours. **Zlatchin**

Supervised practicum in psychiatric emergency services. Course includes crisis evaluation, triage, disposition and treatment planning, crisis intervention, brief psychotherapy, instruction in the use of psychoactive medications, case conferences and seminars on related topics. PSYCHIATRY

204A-B-C. Mental and Psychological Issues in Patient Care. (3-3-3) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 1½ hours. Lab 4½ hours. **H.T. Stein**

Exploration of psychiatric and psychological issues in medical care and biomedical issues in psychiatric care. Course includes varied, supervised experiences such as rounds in the general hospital, preceptorships, consultation to medical units, and lectures and seminars on related topics. PSYCHIATRY

211. Theoretical Bases of Psychotherapeutic Inquiry. (1-5) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-5 hours. **L. J. Epstein, Weinschel**

Directed reading and small group seminars regarding models of understanding and psychotherapeutic intervention in emotional disturbance. PSYCHIATRY

214. The Practice of Clinical Social Work. (1½) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1½ hours. **Ahern**

Theoretical background for trainees in psychosocial diagnosis; individual and group therapy, family therapy, brief therapy and crisis intervention, cross-cultural therapy; work with systems and other disciplines. Emphasis on clinical social work with geriatric patients, the physically ill, and others. PSYCHIATRY

249. Special Studies in Mental Health. (1-5) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor only. Lecture 0-2 hours. Lab 3-9 hours. **Wanerman and Staff**

Students, with faculty approval, select particular areas of the mental health field for advanced or intensive study. Areas chosen may be primarily clinical or nonclinical, but in most instances will combine clinical and nonclinical issues. PSYCHIATRY

400. Psychiatric Grand Rounds. (1½) F, W, Sp. Lecture 1½ hours. **R. S. Wallerstein**

Members of the Department of Psychiatry make clinically centered presentations reflecting all areas of the department's work. Each topic involves a two-session sequence, with the second week consisting of formal discussion of the previously presented work from various viewpoints. PSYCHIATRY

402. Introduction to Psychotherapy of the Severely Disturbed. (1) Su. Prerequisite: Assignment to Inpatient Treatment and Research Services, psychiatric resident, or consent of instructor. Seminar 1 hour. **Scotton**

Seminar is designed to provide a theoretical framework and develop technical skills for psychotherapy of severely disturbed patients with attention to support, management, uncovering, and coordination with the broad-based treatment approach of the ITRS. Includes lectures, discussion, and supervised interviews. PSYCHIATRY

403. Therapeutic Process. (1½) Su, F, W, Sp. **Ostwald**

Individual consultation with psychiatric residents and other advanced trainees concerning treatment and management problems. Diagnostic questions, indications for

somatic and psychological interventions, the course of therapy, and research issues are emphasized. PSYCHIATRY

404. Theories of Personality. (1) F, W.

J. Fisher, Burke

Focus is on personality theories other than Freudian, such as Piaget, Skinner, and Rogers. Course includes an examination, study, and discussion of contemporary personality theories, their concepts, systematic application to the behavioral sciences, and research potentials. Parallel reading is required. PSYCHIATRY

405. Personality Assessment (1) W, Sp.

J. Fisher, Burke, Steinhelber

Seminar presents techniques of assessing personality and intellectual functions in relation to psychodiagnostic evaluations and study of prognosis with psychotherapy. Discussion of development, design, and theory of clinical psychological methods and clinical applications and demonstrations with appropriate case material. PSYCHIATRY

406. Supervised Teaching of Medical Students. (1-2) Su, F, W, Sp. Lecture 1-2 hours.

Ostwald

Individual and group instruction is given for psychiatric residents working with medical students in Psychiatry 110. Technical and theoretical issues in supervision and learning are analyzed, together with selected reading assignments. PSYCHIATRY

407. Research in Behavioral Sciences. (1-10) Su, F, W, Sp.

Callaway

Course consists of supervised clinical and basic research in behavioral abnormalities, psychopathology, and experimental psychiatry. Specific subjects for research are chosen in conjunction with members of the staff. PSYCHIATRY

409. Neuropathology. (4) Su, F, W, Sp. Lecture 4 hours.

Malamud

Discussion of the neuropathology of neurological and psychiatric disorders with illustrations from gross and microscopic material. PSYCHIATRY

412. Jungian Psychoanalytic Theory. (1) F, W, Sp. Lecture 1 hour.

Brookes, Irvine

Ongoing review of major principles of Jung's analytical psychology with special reference to their application to practice of psychotherapy. Designed to elaborate dynamics of psychotherapeutic process by utilizing psychotherapists from widely differing theoretical backgrounds in simultaneous dialogue around clinical material. PSYCHIATRY

413. Introduction to the Computer. (2-3) F, W, Sp. Lecture 1 hour, Lab 3-6 hours.

Starkweather

Seminar presents a review of digital computing and its applications in psychiatry. Residents explore these concepts through their own programming efforts. PSYCHIATRY

414. Issues of Diagnosis and Treatment Planning. (1½) F, W. Lecture 1½ hours.

R. S. Wallerstein

Individual cases are presented by students for assessment. Goals are discussed and the rationale for the particular psychotherapeutic approach is considered. Course is required for first-year residents in psychiatry and students in the Doctor of Mental Health Program. PSYCHIATRY

418. Research in Computer Simulation and Analysis of Behavior. (1-10) F, W, Sp.

Starkweather

Supervised research with computer methods for the simulation of behavior in clinical interactions. Applications of computers to the analysis of human communication. PSYCHIATRY

419. Child Development and Personality. (½) Su. Prerequisite: Consent of instructor.

Friedlander, D. Morrison

Seminar is focused on the most common and prevalently used methods of assessing intelligence, perceptual-motor integration and personality in children. Actual testing materials as well as supporting research are covered. Participation is required. PSYCHIATRY

420. Issues and Research in the Treatment of Substance Abuse. (2) W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Equivalent to Psychology 181.04. Enrollment limited.

S. Hall, Havassy

Survey of research on issues concerning treatment of substance abusers and of theories of etiology and treatment. Substances covered are heroin, alcohol, barbiturates, amphetamines, caffeine and nicotine. Obesity will also be included. PSYCHIATRY

421. Cultural Sources of Western Concepts of Man. (1) F, W, Sp. Prerequisite: Third-year resident standing, or one year of clinical experience, or consent of instructor. Seminar 1 hour.

E. Burke

Examination of religious, philosophical and scientific views of man. Course objective is to broaden students' familiarity with the background of contemporary conceptualizations of human personality. Course is required for third-year residents. PSYCHIATRY

424. Research on Human Response to Stress. (4) Su, F, W, Sp. Prerequisite: Graduate or advanced resident standing. One year of advanced psychological or psychiatric work.

M. Horowitz

Guided research using experimental, field, and clinical modes of investigation into the typical and idiosyncratic human responses to external stressors. The focus is on conscious and unconscious ideational, emotional, and defensive processes. PSYCHIATRY

427. Advanced Psychotherapy. (2-4) Su, F, W, Sp. Prerequisite: One year of full-time experience in the conduct of outpatient psychotherapy or equivalent. Lecture 2 hours, Lab 4-10 hours.

M. Horowitz

Course covers psychotherapy of selected cases with recordings of the process, supervision during treatment, and group seminars in which the therapy is reviewed in retrospect using microanalytic and macroanalytic levels of abstraction. PSYCHIATRY

428A-B-C. Practicum in Sex Counseling. (7-7-7) F, W, Sp. Prerequisite: Psychiatry 180 or Psychiatry 160.14 and 160.15, or consent of instructor. Lecture 2 hours. Clinic 15 hours. Course must be taken in order and consecutively.

Gendel and Staff

A nine-month (two days per week) minimum rotation in the Sex Counseling Unit involving didactic presentations, case conferences, and supervised counseling experience with couples and individuals presenting sexual dysfunctions. PSYCHIATRY

430. Clinical Conferences of the Child and Adolescent Service. (1½) F, W, Sp. **I. Philips**

Members of the faculty and visiting professionals present clinical discussions and new developments related to the field of child and adolescent psychiatry. PSYCHIATRY

431. Program Evaluation in Health and Other Human Service Organizations. (2) W, Sp. Equivalent to Psychology 221. Seminar 2 hours.

Attkisson

A seminar course designed to provide a basic overview of the organizational context of program evaluation; design and implementation of information systems; assessment of community needs; evaluation of program quality and effectiveness, and training of evaluators. PSYCHIATRY

432. Clinical Biofeedback. (2) Sp. Equivalent to Psychology 181.03. Seminar 2 hours.

Pelletier

Integration of biofeedback with psychotherapy and medical practice; methods of intervention and prevention will be presented in a therapeutic model emphasizing psychological factors in stress disorders. Biofeedback instruments are demonstrated and applied. Course is intended for clinical practitioners. PSYCHIATRY

433A-B-C. Special Seminar in Physiological — Biological Research in Psychopathology. (1-1-1) F, W, Sp. Equivalent to Psychology 233A-B-C. Seminar 2 hours.

Callaway

An ongoing seminar devoted primarily to the research interests of the group studying human event related potentials. It includes visiting scientists, as well as presentations by staff and postdoctoral fellows. PSYCHIATRY

434. Cerebral Hemispheric Specialization and Integration. (2) Sp. Prerequisite: Background in neurophysiology, anatomy, cognitive psychology; intended for advanced students. Consent of instructor. Seminar 2 hours. Equivalent to Psychology 181.02.

Galin

Group discussions of readings in seminar format of neuropsychology of hemispheric specialization for cognitive function, and integration of the two hemispheres; developmental, psychiatric and educational implications; evaluation of data from study of brain lesions, electrophysiological recordings, and behavioral testing. PSYCHIATRY

437A-B. Proseminar in Psychological Research. (2-2) F, W. Prerequisite: Background in statistics and graduate or postgraduate standing and/or consent of instructor. Seminar 2 hours. Equivalent to Psychology 256A-B.

H. Peeke, Salamy

Students propose an original experiment, survey the literature, and present a written and oral report. A revised paper, written in proper journalistic style complete with data

analysis, using original or simulated data and conclusions is also required. PSYCHIATRY

438A-B-C-D. Intermediate Family Therapy. (1½-3-3-3) SS 2, F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Four-quarter course. Equivalent to Psychology 285A-B-C-D.

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, video presentations of families in treatment, clinical supervision of ongoing cases. PSYCHIATRY

439. Psychological Development and Assessment of the Handicapped. (1½-2) Su, F, W, Sp. Prerequisite: Background in psychological assessment, consent of instructor, and preregistration. Lecture 1½ hours. Lab 0-1½ hours. Equivalent to Psychology 181.06.

Brinich, H. Schlesinger

Cognitive, linguistic, and emotional development of handicapped children and adults, with emphasis on sensory disabilities. Review of psychological assessment techniques, supervised experience. PSYCHIATRY

440. Impact of Health Insurance and Legislation on Practice. (2) F. Lecture 2 hours.

Dorken

Review of the nature and types of health insurance as economic forces in practice; discussion of health care delivery models, manpower resources, peer review systems, utilization data; national health insurance and legislative process focusing on recent state and federal laws. PSYCHIATRY

441. Social and Psychological Factors in Medicine. (2) Sp. Equivalent to Psychology 181.05. Seminar 2 hours. Not offered 1979-80.

J. B. Henderson

Overview of the major concepts and approaches in health education, focusing on chronic diseases and primary and secondary prevention of health risks and problems; societal factors and individual determinants; specific techniques for helping people modify life styles. PSYCHIATRY

442. Current Topics in Biological Psychology. (2) Sp. Equivalent to Psychology 232. Seminar 2 hours. **Salamy, H. Peeke**

A seminar course focusing on a current topic in biological psychology such as neuroethology, lateralization of brain function, psychophysiology of stress, or physiology of attention. Individual presentations and discussion are required. PSYCHIATRY

443. Psychosocial Care of the Dying Patient. (2) F, Sp. Equivalent to Psychology 180. Seminar 2 hours. **Garfield**

Models for dealing with psychosocial issues involved in caring for the dying patient. Emphasis on the sequence of events encountered by the health professional and patient from diagnosis through death. Course is intended for medical, nursing and mental health students. PSYCHIATRY

444. Psychobiography and Pathography. (2-5) F, W, Sp. Lecture 2-5 hours. **Ostwald**

A course focusing on 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 are encouraged to choose individual subjects for research. PSYCHIATRY

445. Psychotherapy Case Conferences for Graduates. (1) F, W, Sp. Prerequisite: Graduation from Psychiatric Residency Program. Consent of instructor. Seminar 1 hour. **Amini**

Post-residency seminar examines psychodynamics and related psychotherapy processes. PSYCHIATRY

446. Basic Psychoanalytic Concepts II. (1) F, W, Sp. Prerequisite: Psychiatry 465. Seminar 1 hour. Required for PGY-3 residents in psychiatry. **Amini**

The second of a two-year seminar covering the development of psychoanalytic theory. Emphasis is placed on normal development, developmental pathology, and adult psychopathology. Pertinent issues of treatment approach to particular psychopathologies are also discussed. PSYCHIATRY

447. Psychotherapy Case Conference. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **Amini**

Seminar covers in-depth issues related to the initial basis of psychotherapy. Emphasis is on assessment, formulation, and initial treatment planning. Case presentations and discussion will be extensively utilized. PSYCHIATRY

448. Comparative Psychotherapy. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **Zegans**

Seminar covers both theoretical and clinical perspectives, and will compare and contrast the different psychotherapeutic approaches and theories behind them. PSYCHIATRY

450. Clinical Psychiatry. (1½) Su, F, W, Sp. Required for residents at *LPI*, *SFGH*, and *UC*. Elective for all others. **L. J. Epstein, Motto**

Residents are responsible for the study and treatment of psychiatric patients and consultation of non-psychiatric patients under the supervision of senior staff members of the faculty. Parallel reading is required. PSYCHIATRY

451. Advanced Psychiatry. (1½ per week) Su, F, W, Sp. Prerequisite: Chief residents. **M.R. Harris, L.J. Epstein**

Program planning and consultation concerning administrative, teaching and research roles of chief residents.

PSYCHIATRY

452. Child Psychiatry. (1½ per week) Su, F, W, Sp. Required for residents in their second year of child psychiatry. **I. Philips**

Residents in child psychiatry are responsible for the diagnosis and treatment of children with psychiatric problems and for therapeutic work with their parents under the supervision of the senior staff. PSYCHIATRY

453. Advanced Child Psychiatry. (1½ per week) Su, F, W, Sp. Prerequisite: Psychiatry 452. Required for residents in their second year of child psychiatry. **I. Philips**

In addition to clinical work, the residents in child psychiatry are required to supervise the work of others and to preside over treatment reviews and interagency conferences. PSYCHIATRY

456. Community Mental Health. (3) Su, F, W, Sp. Prerequisite: Open to third, fourth and fifth year residents. Lecture 4 hours. **D. Brown**

Lectures in the theory and practice of mental health consultation, program evaluation and administration, and preventive services. Supervision of related field experiences by senior faculty in seminar setting. Interdisciplinary interaction emphasized. Review of relevant literature. PSYCHIATRY

457. Working Clinically with Dreams from the Jungian Perspective. (1) Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **Richman**

Seminar presenting the theoretical aspects of dreams and clinical application within the Jungian framework. PSYCHIATRY

458. Forensic Psychiatry. (1½) W. Prerequisite: Consent of instructor. Seminar 1½ hours. **B. Diamond, L. J. Epstein, 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

459. Clinical Case Conference: Jungian Perspective. (1) F, W, Sp. Prerequisite: Consent of instructor. Conference 1 hour. Enrollment limited. Priority given to second-year residents. **Klaif**

An elective continuous case conference focusing on transference and countertransference from a Jungian perspective. Major theoretical concepts will be discussed in context of the cases being presented. PSYCHIATRY

460. Treatment of the Borderline Character. (1½) F, W, Sp. Prerequisite: Open to third-year residents only with consent of instructor. Seminar 1½ hours. Course given at San Francisco Psychoanalytic Institute Library. **Oremland**

Seminar reviewing the literature pertinent to psychotherapy of the severely disturbed, predominantly borderline patient. A case will be presented and discussed. PSYCHIATRY

461. Clinical Investigation of Psychotherapy. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **Horowitz**

Discussion of issues in clinical research, focusing on questions in clinical research design in the study of psychotherapy. Course will also cover psychotherapy with various character types. PSYCHIATRY

462. Group Psychotherapy Videotape Demonstration. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **D. Ferrell**

Demonstration of group therapy to be viewed on videotape. Material viewed will serve as a focus for the discussion of theory and technique in group therapy. PSYCHIATRY

463. Child Psychopathology/Psychotherapy. (1) Su, F. Seminar 1 hour. Required for third-year residents in psychiatry. **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

464. Family, Group, and Behavior Therapy. (1) F, W, Sp. Seminar 1 hour. Required for third-year residents in psychiatry. **N. Scott, Zeitlin, S. Hall, Zegans**

Seminar covering family, group, and behavior therapy. Both theoretical and technical issues will be presented with case illustrations where appropriate. PSYCHIATRY

465. Basic Psychoanalytic Concepts. (1) F, W, Sp. Seminar 1 hour. **Amini**

Seminar offers instruction in the theoretical bases of psychoanalysis. PSYCHIATRY

466. Psychoanalytic Psychotherapy. (1) F, W, Sp. Prerequisite: Psychiatry 465. Seminar 1 hour. **Amini**

Seminar offers instruction in the technique of psychoanalytic psychotherapy and its theoretical basis. PSYCHIATRY

467. Clinical Case Conference. (1½) F, W, Sp. Conference 1½ hours. Required for third-year residents in psychiatry. **Gootnick**

The theory of an individual outpatient psychotherapy is presented. The case in treatment is followed on a weekly basis. PSYCHIATRY

468. Interdisciplinary Seminar in Human Development. (3) F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Three-quarter course. **Fiske and Staff**

Theory and research covering adolescence to old age from sociological, psychological, psychoanalytical, and anthropological perspectives. Topics include stress, personality and cognitive change, time perspective values, socialization processes and adaptation. Reading and paper required. PSYCHIATRY

469. Speech, Hearing, and Psychiatry. (1) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. **Ostwald**

Diagnosis and treatment of psychiatric problems associated with speech, hearing, or language difficulty. Supervised clinical work with selected patients according to resident's level of experience. Instruction with such alternative audiovisual communication systems as manual signing and voice printing. PSYCHIATRY

470. Neurology. (1) W. Lecture 1 hour. Required for fourth-year residents in psychiatry. **Palatucci**

Review of clinical neurology with emphasis on neurological disorders that may have psychiatric implications. PSYCHIATRY

471. Growth and Development II. (1) F. Seminar 1 hour. Required for third-year residents in psychiatry. **A. Simon, Keifer, L. J. Epstein**

This seminar follows Growth and Development I. It will cover adulthood and aging. PSYCHIATRY

472. Problems in Psychotherapy. (½) W, Sp. Lecture 1½ hours. **R.S. Wallerstein**

Problems in psychotherapy conducted within a psychodynamic framework. Topics include: treatment indications, goals, motivation and treatability, resistance and defense, transference and countertransference, dreams in psychotherapy, third party involvements, emergency and hospitalization, adjuvant drug management, note taking and recording, transfer and termination. PSYCHIATRY

473. Clinical Case Conference. (1) F, W, Sp. Conference 1 hour. Required for second-year residents in psychiatry. **S. A. Schwartz**

An approach to individual psychotherapy with more severely disturbed patients is presented. Case and treatment are followed on a weekly basis. PSYCHIATRY

474. Videotape Demonstration of Psychotherapy. (2) F, W, Sp. Lecture 2 hours.

Nelken

Instructor's psychotherapeutic sessions with the patient are videotaped and played back and discussed with second and third year residents and other trainees. The material is objective and repeatable; the therapist is frank and self-critical; various theoretical views are compared. PSYCHIATRY

475. Self-Administration of Psychoactive Drugs. (2) W. Lecture 2 hours. Equivalent to Psychology 181.09. **Bachman**

Course is designed to acquaint students with some psychopharmacological determinants and consequences of psychoactive drug use and abuse, focusing on cannabis, alcohol, and tobacco. Topics include psychophysiological effects, individual differences in users' personalities, and reinforcement properties that maintain use. PSYCHIATRY

476. Growth and Development I. (1) W, Sp. Lecture 1 hour. Required for second-year residents in psychiatry. **Binger, I. Philips**

A study of the development and changes in psychological functions from birth to senescence. Biological aspects of growth relevant to psychological functioning are considered. Emphasis is on observational data. PSYCHIATRY

477. Psychopathology. (1) W, Sp. Seminar 1 hour. Required for second-year residents in psychiatry. **Applegarth**

Examination of neurotic and character disorders from a psychodynamic perspective. PSYCHIATRY

478. Psychobiology I. (1) F, W, Sp. Seminar 1 hour. Required for second-year residents in psychiatry. **R. Stone, Blair, Callaway**

Exploration of biochemistry, physiology, and neuroanatomy related to mental functioning and behavior, and application of concepts to the understanding of etiology and biological treatment of psychoses. Phenomenology and psychopathology of disorders are studied and rationale for various psychological interventions. PSYCHIATRY

479. Crisis Intervention Theory and Technique. (1) F, W. Lecture 1 hour. Required for second-year residents in psychiatry. **Binder**

Examination of the development and application of crisis theory and therapy. Readings, discussion, and patient interviews are also included. PSYCHIATRY

480. Introduction to Clinical Psychiatry. (3) Su. Seminar 3 hours. Required for second-year residents in psychiatry. **Staff**

Seminar provides an introduction to the psychiatric interview and diagnosis, with emphasis on psychiatric emergencies. PSYCHIATRY

481. Holistic Health Care. (2) W. Seminar 2 hours. Equivalent to Psychology 181.08. **Pelletier**

An intensive seminar focusing on the emerging discipline of holistic health care. Areas covered include implementation of holistic health care in private practice and institutional contexts; stress and its management; biofeedback; dietary, nutritional factors; physical activity, exercise; and longevity. PSYCHIATRY

482. Behavior Modification in the Treatment of Childhood Psychopathology. (1) F. Prerequisite: Consent of instructor. Lecture 12 hours for four weeks. **D. Morrison**

Basic introduction to use of both operant conditioning and behavior modification techniques with children. Theoretical and

applied issues are discussed and reviewed in the context of research with a broad range of psychopathological conditions of childhood. PSYCHIATRY

483. Research Methodology in Child Psychiatry. (1) F. Prerequisite: Consent of instructor. Lecture 12 hours for four weeks. **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

484. Psychologies of Other Cultures. (2) F. Prerequisite: Current appointment at LPI as resident in psychiatry, fellow in psychology, or consent of instructor. Seminar 2 hours. **Scotton**

Examination of other psychologies for their basic assumptions about man and the world, the resultant psychology, resultant societal behavior, and possible applications to psychotherapy. Includes lecture, discussion, and presentation of one system by each participant. PSYCHIATRY

485. Psychobiology II. (1) F, W, Sp. Seminar 1 hour. Required for third-year residents in psychiatry. **R. Stone**

Seminar explores biochemistry, physiology, and neuroanatomy as related to mental functioning and behavior, and applies concepts to the understanding of etiology and biological treatment of psychoses. Phenomenology and psychopathology of disorders and rationale for various psychological interventions are studied. PSYCHIATRY

Psychology

113A-B. Human Growth and Behavior. (3) F, W. Prerequisite: First year standing or consent of instructor. Lecture 3 hours.

Kayser-Jones

Examination of patterns and sequences of human development. Exploration of human behavior and maturation with a view to the influences affecting the human condition through the life span. Various theoretical bases are explored in conjunction with biological and psychosocial concepts. MENT HLTH COM

170. Patient Compliance. (2) § W. Lecture 2 hours.

G. Stone

Patients' cooperation with health regimens contributes significantly to outcomes of health care. This course reviews factors that affect degree of compliance achieved and examines results of attempts to improve compliance. Stress is placed on tailoring methods to specific clinical circumstances. PSYCHIATRY

170.01. Communication in Health Transactions. (2) W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 3 hours. Enrollment limited.

G. Stone

Lectures, readings, role-playing, and video replay will be used to teach social psychological influences on participants in health transactions; communication as joint problem-solving; specific skills of listening and speaking; awareness of nonverbal aspects of communication. PSYCHIATRY

180. Psychosocial Care of the Dying Patient. (2) § F, Sp. Seminar 2 hours.

Garfield

Models for dealing with psychosocial issues involved in caring for the dying patient. Emphasis on the sequence of events encountered by the health professional and patient from diagnosis through death. Course is intended for medical, nursing and mental health students. PSYCHIATRY

180.01. Seminar in Psychology. (1) W. Seminar 1 hour.

Plainfield

Weekly discussions in which students' clinical cases are analyzed by dynamic application of behavioral theory. GEN DENT

180.02. Psychological Aspects of Treatment Planning. (1) Sp. Seminar 1 hour.

Plainfield

This course integrates students' basic training from the specialty courses in dentistry with knowledge of the psychological considerations necessary to individualize treatment. Appropriate treatment may then be planned to the practitioners' awareness of the unique needs of patients. GEN DENT

180.03. Advanced Psychology for Dental Hygienists. (1) Sp. Seminar 1 hour.

Plainfield

Seminar discussions on the emotional aspects of interpersonal transactions among office personnel, therapists, and patients. GEN DENT

181.02. Cerebral Hemispheric Specialization and Integration. (2) § Sp. Prerequisite:

Background in neurophysiology, anatomy, cognitive psychology; intended for advanced students. Consent of instructor. Seminar 2 hours. Equivalent to Psychiatry 434.

Galin

Group discussions of readings in seminar format of neuropsychology of hemispheric specialization for cognitive function, and integration of the two hemispheres; developmental, psychiatric and educational implications; evaluation of data from study of brain lesions, electrophysiological recordings, and behavioral testing. PSYCHIATRY

181.03. Clinical Biofeedback. (2) § Sp. Seminar 2 hours.

Pelletier

Integration of biofeedback with psychotherapy and medical practice; methods of intervention and prevention will be presented in a therapeutic model emphasizing psychological factors in stress disorders. Biofeedback instruments are

demonstrated and applied. Course is intended for clinical practitioners.

PSYCHIATRY

181.04. Issues and Research in the Treatment of Substance Abuse. (2) § W, Sp. Prerequisite: Consent of instructors. Seminar 2 hours.

S. Hall, Havassy

Survey of research on issues concerning treatment of substance abusers and of theories of etiology and treatment. Substances covered are heroin, alcohol, barbiturates, amphetamines, caffeine and nicotine. Obesity will also be included. PSYCHIATRY

181.05. Social and Psychological Factors in Medicine. (1-2) § Sp. Seminar 1-2 hours. Equivalent to Psychiatry 441. Not offered 1979-80.

J.B. Henderson

Overview of the major concepts and approaches in health education, focusing on chronic diseases and primary and secondary prevention of health risks and problems; societal factors and individual determinants; specific techniques for helping people modify lifestyles. PSYCHIATRY

181.06. Psychological Development and Assessment of the Handicapped. (1½-2) § Su, F, W, Sp. Prerequisite: Background in psychological assessment. Consent of instructor. Lecture 1½ hours. Lab 0-1½ hours. Equivalent to Psychiatry 439.

Brinich, H. Schlesinger

Cognitive, linguistic, and emotional development of handicapped children and adults, with emphasis on sensory disabilities. Review of psychological assessment techniques, supervised experience. PSYCHIATRY

181.07. Coping with Stress in Medical 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 alter-

native 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

181.08. Holistic Health Care. (2) § W. Seminar 2 hours. Equivalent to Psychiatry 481. **Pelletier**

An intensive seminar focusing on the emerging discipline of holistic health care. Areas covered include implementation of holistic health care in private practice and institutional context; stress and its management; biofeedback; dietary, nutritional factors; physical activity, exercise; and longevity. PSYCHIATRY

181.09. Self-Administration of Psychoactive Drugs. (2) § W. Lecture 2 hours. Equivalent to Psychiatry 475. **Bachman**

Course is designed to acquaint students with some psychopharmacological determinants and consequences of psychoactive drug use and abuse, focusing on cannabis, alcohol, and tobacco. Topics include psychophysiological effects, individual differences in users' personalities, and reinforcement properties that maintain use. PSYCHIATRY

185. Nonverbal Communication (1) § F. Lecture 8 hours given in one day, plus research project. **Ekman**

Reading messages from the face and body; what patients reveal without words about their feelings and personality, and what you are revealing to them. PSYCHIATRY

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

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

200. Theory and Research in Learning and Cognition. (3) § F. Prerequisite: Graduate standing in Health Psychology Program, or upper division courses in learning and cognitive psychology, and consent of instructor. Seminar 3 hours. Offered in alternate years. Not offered 1979-80. **G. Stone**

Course provides a basis for continued reading of current research and theory in learning and cognition, and for designing interventions in health transactions based on readings; identifies and traces history of major issues and viewpoints. PSYCHIATRY

202A-B. Computer Simulation of Personality and 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

210. Personality Psychology (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1979-80. **F. Cohen**

General and systematic issues in the study of personality; evaluation of major theories and points of view; theoretical and methodological issues in the assessment of personality. PSYCHIATRY

211A-B. Theories of Personality. (2-2) § W, Sp. Prerequisite: Graduate standing and consent of instructor. Psychology 211A is prerequisite to 211B, but may be taken independently of 211B. Seminar 2 hours. Enrollment limited. **J. Fisher**

Survey of major contemporary theories of personality, including some more recent, selected philosophic points of view; study of their structure, how they conceptualize personality development, how they relate to empirical phenomena, and what research is generated by them. PSYCHIATRY

212. Psychological Stress and Coping. (3) § W. Prerequisite: Consent of instructor. Seminar 3 hours. Offered in alternate years. Not offered 1979-80. **F. Cohen**

Course examines stress theory and research from clinical, field, and laboratory settings; physiological, psychological, and sociological measures of stress; the nature of coping and coping processes. PSYCHIATRY

220. Health Research Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Offered in alternate years. Offered 1979-80. **Attkisson (F), G. Stone (W, Sp)**

This seminar will acquaint students with research in health psychology. Presentations of research studies in health care problems and discussion of related issues will be given by students as well as by guest speakers. PSYCHIATRY

221. Program Evaluation in Health and Other Human Service Organizations. (2) § W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. **Attkisson**

A seminar course designed to provide a basic overview of the organizational context of program evaluation; design and implementation of information systems; assessment of community needs; evaluation of program quality and effectiveness, and training of evaluators. PSYCHIATRY

230. Physiological Aspects of Health Psychology. (3) § F. Prerequisite: Graduate standing in Health Psychology Program or consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1979-80. **G. Stone**

An overview of major organ systems of the human body stressing psychological impacts on their functioning and psychological consequences of abnormality. Course will prepare student for reading

medical literature and interacting effectively with health professionals in planning research. PSYCHIATRY

231. Basic Physiological Psychology. (3) § Sp. Prerequisite: Basic courses in experimental psychology and consent of instructor. Lecture 3 hours. **H. Peeke**

Central nervous system mechanisms involved in the regulation of behavior will be emphasized. Elementary neurophysiology, anatomy and neurochemistry will be discussed as background material. Focus is on the substrates of behavior of the intact organism. PSYCHIATRY

232. Current Topics in Biological Psychology. (2) § Sp. Prerequisite: Basic courses in physiological psychology, experimental psychology, and consent of instructor. Seminar 2 hours. **Salamy, H. Peeke**

A seminar course focusing on a current topic in biological psychology such as neuroethology, lateralization of brain function, psychophysiology of stress, or physiology of attention. Individual presentations and discussion are required. PSYCHIATRY

233A-B-C. Special Seminar in Physiological-Biological Research in Psychopathology. (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **Callaway**

An ongoing seminar course devoted primarily to the research interests of the group studying human event related potentials. It includes visiting scientists, as well as presentations by staff and postdoctoral fellows. PSYCHIATRY

234. Neurochemical Basis of Abnormal Psychology. (2) F, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. **Ellman**

Seminar and readings on subjects related to the neurochemical, neuropharmacological basis of CNS functions; cell physiology of the nervous system. PSYCHIATRY

235A-B-C. Psychophysiology of Consciousness. (2-2-2) § F, W, Sp. Lecture 2 hours. Lab 1 hour. **Kamiya**

Course considers the relationship among behavior, subjective experience and physiological processes, including autonomic and central neural. Review of methods of achieving increased awareness and control of physiological activity. Demonstrations, laboratory. PSYCHIATRY

240. Social Psychology. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1979-80. **N. Adler**

A survey of social psychological theory and research. Topics to be covered include attitude formation and change, decision-making, role theory, group dynamics, conformity and social influence, person perception and attribution theory. 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

249A. Special Seminar in Cognitive-Information Processing. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of cognitive-information processing. Topics to be announced. PSYCHIATRY

249B. Special Seminar in Personality. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of personality. Topics to be announced. PSYCHIATRY

249C. Special Seminar in Developmental Psychology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of developmental psychology. Topics to be announced. PSYCHIATRY

249D. Special Seminar in Evaluation. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of evaluation. Topics to be announced. PSYCHIATRY

249E. Special Seminar in Physiological-Biological Psychology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of physiological-biological psychology. Topics to be announced. PSYCHIATRY

249F. Special Seminar in Social-Organizational Psychology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of social-organizational psychology. Topics to be announced. PSYCHIATRY

249G. Special Seminar in Statistics-Methodology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of statistics-methodology. Topics to be announced. PSYCHIATRY

249H. Special Seminar in Health Psychology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of health psychology. Topics to be announced. PSYCHIATRY

249I. Special Seminar in Communication-Change Methods. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of communication-change methods. Topics to be announced. PSYCHIATRY

249J. Special Seminar in Clinical Psychology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Staff**

Special seminar in the area of clinical psychology. Topics to be announced. PSYCHIATRY

249K. Special Seminar in Other Areas of Psychology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours.

Staff

Special seminar in other areas of psychology. Topics to be announced. PSYCHIATRY

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

Staff

251A. Statistics for Psychology. (4) § W. Prerequisite: Undergraduate courses in statistics. Consent of instructor. Lecture 4 hours. Offered in alternate years. Offered 1979-80.

G. Fein

Introduction to parametric and nonparametric techniques appropriate for analyzing outcomes of experiments and field studies. Problems of sampling, estimating population values, combining data from multiple studies will be considered. PSYCHIATRY

251B. Statistics for Psychology. (4) § Sp. Prerequisite: Psychology 251A or equivalent. Lecture 4 hours. Offered in alternate years. Offered 1979-80.

Hargreaves

Correlational methods and multiple regression as a general approach to data analysis, and its application to simple analysis of variance problems. PSYCHIATRY

251C. Statistics for Psychology. (4) § F. Prerequisite: Psychology 251B or equivalent. Lecture 4 hours. Offered in alternate years. Not offered 1979-80.

Hargreaves

Advanced application of multiple regression. The general linear model in analysis of variance and co-variance. Introduction to multivariate analysis of variance and factor analysis. PSYCHIATRY

254A. Research Methods. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1979-80.

N. Adler

An overview of research strategies and their associated strengths and weaknesses: experimental and quasi-experimental designs, correlation approaches, interview techniques, survey and questionnaire construction, uses of archival data, simulations, evaluation research, participant observation and other observational techniques. PSYCHIATRY

254B. Research Methods. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1979-80.

N. Adler, Attkisson

An in-depth study of major research approaches. Emphasis will be on problem design, artifact, ethics of research, and practical problems in conducting research. Topical areas in program evaluation such as outcome evaluation and client satisfaction will also be included. PSYCHIATRY

255. Tests and Measurement. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours.

O'Sullivan

Psychological test construction, including item analysis, standardization, reliability, and validity. PSYCHIATRY

256A-B. Proseminar in Psychological Research. (2-2) § F, W. Prerequisite: Background in statistics and graduate or postgraduate standing and/or consent of instructor. Seminar 2 hours. Equivalent to Psychiatry 437A-B.

H. Peeke, Salamy

Students propose an original experiment, survey the literature, and present a written and oral report. A revised paper, written in proper journalistic style complete with data analysis, using original or simulated data and conclusions is also required. PSYCHIATRY

257. Introduction to the Computer for Behavioral Sciences. (3) § F. Prerequisite: Elementary statistics and consent of instructor. Lecture 1 hour. Lab 6 hours.

Starkweather

The computer is studied as a useful tool for data analysis and controlled experiment. Students will learn to make use of existing program systems. PSYCHIATRY

260. The Health System. (3) § W. Prerequisite: Graduate standing in Health Psychology Program, or consent of instructor. Lecture 1½ hours. Seminar 1½ hours. Offered in alternate years. Not offered 1979-80.

Attkisson

Function and tasks of the health system; resources available and their deployment; institutions and organizations, professional roles; constraints imposed by rules, customs, societal factors. Issues of access, utilization, outcomes, financing will be stressed. Participation by invited guest experts. PSYCHIATRY

262. Introduction to Health Psychology. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1979-80.

F. Cohen

Examination of empirical research and theoretical perspectives in certain problem areas within the health system where psychological knowledge is of direct relevance, such as information-processing in patient and physician, compliance, coping with the stresses of illness. PSYCHIATRY

263A-B-C. Research Placement and Seminar. (3-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Lab 6 hours. Offered in alternate years. Not offered 1979-80.

N. Adler (F, Sp), Attkisson (W)

Students will be placed in an ongoing research project, initially as an apprentice; subsequently they will carry out an individual project. They will participate in a concurrent seminar, where research methods and strategies will be discussed. PSYCHIATRY

264. Health Transactions. (2) § Sp. Prerequisite: Consent of instructor. Seminar 2 hours.

G. Stone

Processes of giving and gaining health services are viewed as multiperson problem situations to be resolved through communication. Participation in searching relevant literature for descriptions and analyses from which a systematic taxonomic framework can be developed. PSYCHIATRY

265. Stress and Bodily Disease. (3) § Sp. Prerequisite: Consent of instructor. Seminar 3 hours. Offered in alternate years. Not offered 1979-80. **F. Cohen**

Examination of the psychological and physiological models and empirical research linking stress and other psychological factors to the development of bodily disease. PSYCHIATRY

266. Reproductive Behavior. (3) § Sp. Prerequisite: Consent of instructor. Seminar 3 hours. Offered in alternate years. Not offered 1979-80. **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

270A-B-C. Communication Skills in Health Transactions. (2-2-2) § F, W, Sp. Prerequisite: Graduate standing in Health Psychology Program, or consent of instructor. Lecture 1 hour. Lab 3 hours. Offered in alternate years. Not offered 1979-80. **G. Stone**

A three-part course that teaches a number of skills involved in face-to-face interactions and prepares the student to teach the skills to others. Skills include: data gathering, offering emotional support, joint problem-solving, giving information, making recommendations, leading discussions. PSYCHIATRY

280. Clinical Approaches to Psychological Disorders. (3) § W. Prerequisite: Psychology 210 or equivalent, and consent of instructor. Lecture 3 hours. Offered in alternate years. **F. Cohen**

Critical evaluation of current models of behavior pathology; issues of prevention; theory and method of clinical assessment; processes of therapeutic intervention. PSYCHIATRY

281A-B-C-D. Seminar in Clinical Psychology. (1½-1½-1½-1½) § Su, F, W, Sp. Prerequisite: Consent of instructor. Seminar 1½ hours. **Steinhelber**

Seminar discussions of clinical work in clinical psychology and psychiatry, reports of research and current literature by students and staff, and lectures by faculty. Course is intended primarily for advanced clinical psychology students. PSYCHIATRY

282. Major Variants of Behavior: Abnormal Psychology. (2) § F, W, Sp. Prerequisite: Consent of instructor. Course is intended primarily for advanced students. Seminar 2 hours. **J. Fisher**

Nature, causes, development and treatment of major behavior disorders such as the brain syndromes, drug addictions and the functional psychoses which result in disabling disturbances of interpersonal relations. Contemporary theories of personality development and clinical study of the major disorders. PSYCHIATRY

283A-B-C. Seminar in Clinical Neuropsychology. (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **Steinhelber**

Clinical investigations of human brain-behavior functions, emphasizing relationships between higher cognitive components of behavior and brain disorders. The laboratory consists of supervised neuropsychological evaluations of brain damaged patients. Course is intended primarily for advanced students in clinical specialties. PSYCHIATRY

285A-B-C-D. Intermediate Family Therapy. (½-3-3-3) § SS 2, F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Four-quarter course. Equivalent to Psychiatry 438A-B-C-D. **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, video tape presentations of families in treatment, clinical supervision of ongoing cases. PSYCHIATRY

290. Impact of Health Insurance and Legislation on Practice. (2) § F. Lecture 2 hours. **Dorken**

Review of the nature and types of health insurance as economic forces in practice; discussion of health care delivery models, manpower resources, peer review systems, utilization data; national health insurance and the legislative process will emphasize recent state and federal laws. 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. Practicum in Teaching Psychology. (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 Clinical Clerkship at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131 A-B-C. **T. Phillips**

Participation in examination of cancer patients under treatment in radiation oncology. Students participate in rounds, con-

ferences and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

140.06. Clinical Clerkship in Radiation Oncology at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **J. Castro**

Participation in examination of cancer patients under treatment in the Claire Zellerbach Saroni Tumor Institute at MZ. Students participate in rounds, conferences, and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

150.01. Research Selective. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **T. Phillips**

Individual research in radiation oncology by arrangement with the chairman of the department. Students work under close supervision of a member of the staff. 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. Specialty Seminars Concerning Cancer. (3) Su, F, W, Sp. Seminar 3 hours. **T. Phillips**

Seminars include discussions of the diagnosis, treatment and results of specialty oncology problems, including head and neck, gynecologic, otolaryngologic, pediatric, dermatologic, lymphomatous and general malignancies. RADIOLOGY

415. Seminars in Radiobiology. (1) F, W, Sp. Seminar 1 hour. **T. Phillips**

Study of principles of radiobiology and their application to radiotherapy. Seminars deal in depth with textbooks, selected readings and prepared seminars leading to

understanding of mechanisms of action of radiation in clinical radiotherapy. Oriented to radiotherapy fellows and residents. RADIOLOGY

423. Concepts of Treatment Planning and Dosimetry in Therapeutic Radiology. (3) Su. Prerequisite: Residents assigned to therapeutic radiology. **V. Smith**

A workshop course to provide residents in therapeutic radiology with the elements of treatment planning and dose calculations. RADIOLOGY

424. Physics of Therapeutic Radiology. (1) F, W, Sp. Prerequisite: Residents assigned to therapeutic radiology. Lecture-Seminar 1 hour. **V. Smith**

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. (1½ 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. Introduction to Clinical Radiology. (2) F, W, Sp. Prerequisite: Anatomy 100 and 103, Medicine 130, Pathology 102, and Psychiatry 130; concurrent enrollment in Medicine 131A-B-C. Lecture 1 hour. Lab 1 hour. **S. Ross**

Course provides instruction in basic aspects of therapeutic and diagnostic ra-

diology and nuclear medicine. Illustration of diagnostic and therapeutic modalities in specific disease states provides instruction in use of radiologic resources. RADIOLOGY

140.01. Roentgen Diagnosis. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. **Margulis**

Clerkship in radiology. 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

140.02. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **Margulis**

Clinical clerkship in approved hospital by special arrangement and approval of the chairperson of the department and the Dean. RADIOLOGY

140.04. Clinical Clerkship in Nuclear Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **D. Price**

Observation of basic nuclear medicine procedures and participation in diagnostic tests employing radioisotopic tracers. Completion of Radiology 140.04, 140.12, 170.08, and 170.09 meet the State of California requirements for licensure to use radioactive isotopes in clinical medicine. RADIOLOGY

140.05. Diagnostic Radiology at MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Third or fourth year standing. **A. Davidson**

Rotation through each service in the department of Radiology on a scheduled basis; participation in film interpretation with residents and faculty, and attendance at daily conferences; tutorials available with members of the faculty; role of radiology in clinical management emphasized. RADIOLOGY

140.08. Clinical Clerkship in Cardiovascular Radiology. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **Carlsson**

Cardiovascular radiology provides an opportunity to become acquainted with the radiologic studies of the cardiovascular system through active participation in the examinations and their interpretation. RADIOLOGY

140.09. Clinical Clerkship in Diagnostic Radiology at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **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 rules of interpretation. RADIOLOGY

140.11. Radiology Clerkship at C (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **Burhenne**

Course includes all types of radiologic procedures, pediatric radiology, and radiation therapy with emphasis on the radiologist as a consultant to other specialties as related to use and indications for all radiologic techniques. RADIOLOGY

140.12. Radioactivity Laboratory. (½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. Consent of instructor. **Perez-Mendez**

Course is designed to teach accurate measurement radioactivity techniques for biomedical purposes. RADIOLOGY

140.13. Radiology and Medical Diagnosis. (1½ per week) Su, F. Prerequisite: Medicine 131A-B-C. **S. Ross**

A clerkship for third year students to help acquire knowledge and attitudes that ease transition from preclinical studies to clinical medicine. Radiographs with case

presentations are used to help learn mechanisms of disease and clinical judgment. RADIOLOGY

170.05A-B-C-D. The Anatomy of Anatomy. (1-2, 1-2, 1-2, 1-2) Su, F, W, Sp. Lecture 1-2 hours. **S. Ross**

Course demonstrates anatomy in the living through the use of radiographs. Objectives are to show the usefulness of knowing anatomy, to begin acquiring a medical vocabulary, the elements of clinical thinking, and useful habits in learning. For freshman "Blue" group. RADIOLOGY

170.06A-B-C-D. Pathology of Internal Organs. (1-3, 1-3, 1-3, 1-3) Su, F, W, Sp. Lecture 1-3 hours. **S. Ross**

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. For sophomores. RADIOLOGY

170.07A-B-C. Clinical Applications of Anatomy. (1-2, 1-2, 1-2) F, W, Sp. Lecture 1-2 hours. **S. Ross**

Course demonstrates anatomy in the living through the use of radiographs. Objectives are to show the usefulness of knowing anatomy, to begin acquiring a medical vocabulary, the elements of clinical thinking, and useful habits in learning. For freshman "Gold" group. RADIOLOGY

170.08. Nuclear Medicine Physics. (3½) Su. Prerequisite: Concurrent enrollment in Radiology 170.09. **Perez-Mendez**

Introduction to the physics of radioactivity, nuclear instrumentation and gamma ray imaging techniques. RADIOLOGY

170.09. Introduction to Nuclear Medicine. (3½) Su, F, W, Sp. Prerequisite: Concurrent enrollment in Radiology 170.08. **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 at SFGH. (1) Su, F, W, Sp. Prerequisite: Third year surgery. Seminar 1 hour. **Minagi, R. Lim, 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 in Radiology. (1-5) F, W, Sp. **Margulis and Staff**

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

199. Laboratory Project in Radiology. (1-5) F, W, Sp. **Margulis and Staff**

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

220. Seminars in Radiological Physics for Physicists. (2) § F, W, Sp. Prerequisite: Bachelor's or higher degree in the physical sciences. **V. Smith, R. Baker**

Seminars provide physicists with an in-depth knowledge of radiological physics. RADIOLOGY

295A. Nuclear Medicine Instrumentation and Techniques. (4) § F. Prerequisite: Graduate courses in quantum mechanics, electricity and magnetism, nuclear physics, and computer sciences. Consent of instructor. Lecture 4 hours. **L. Kaufman**

Selected readings and seminars on nuclear medicine and imaging and counting instrumentation and techniques. Principles, design, performance and evaluation of instruments, including gamma cameras, scanners, collimators and well counters. Students will be responsible for two presentations to the staff. RADIOLOGY

295B. New Developments in Nuclear Medicine Instrumentation. (5) § W. Prerequisite: Graduate course in quantum mechanics, electricity and magnetism, nuclear physics, and computer sciences, Radiology 295A and consent of instructor. Lecture 5 hours. **L. Kaufman**

Selected readings, techniques and seminars on nuclear medicine's current developments in new imaging cameras and scanners, semiconductor detectors, stable tracer techniques, computer systems and applications, coincidence detectors and tomographic reconstruction. Students will be responsible for two presentations to the staff. RADIOLOGY

400. Seminar in Diagnostic Radiology. (1) Su, F, W, Sp. Lecture 1 hour. **H. Goldberg**

Faculty from radiology and other departments lecture and discuss various diseases of all systems of the body. Residents prepare case histories stressing roentgen findings and correlative surgical and laboratory work, special studies, library, and film research. RADIOLOGY

401. Diagnostic Case Rounds. (2) Su, F, W, Sp. **Margulis, Gooding**

Films of interesting cases from the daily work are presented and reviewed. Roentgenograms of surgically and pathologically proved cases are correlated with the gross and microscopic pathologic findings. RADIOLOGY

402. Specialty Seminars Concerned with Diagnosis. (3) F, W, Sp. Required for UC residents in diagnostic radiology. **Margulis**

Seminars require preparation and presentation of roentgen findings on patients under discussion at medical, surgical, pediatric, obstetric and gynecologic departmental conferences and seminars on congenital heart disease, disease of the gastrointestinal tract, and orthopaedics. RADIOLOGY

403. Emergency Radiology. (1) F, W. Prerequisite: Required for first year residents in radiology. Lecture 1 hour. **Minagi**

Role of radiologist as consultant in the emergency room; head injuries, fractures, dislocations, blunt and penetrating chest trauma, blunt and penetrating abdominal trauma, trauma to genito-urinary system; management of contrast reactions; indications for, conduction of, interpretation of special radiologic procedures. RADIOLOGY

405. Radiological Research. (1-8) Su, F, W, Sp. Elective. **Margulis**

Numerous research projects are conducted in the department and facilities are available for new ones. Residents are encouraged to take advantage of these opportunities. RADIOLOGY

406. Elements and Clinical Applications of Radiation Physics. (2) Su, F, W, Sp. Lecture 2 hours. **Seidlitz**

The elements of radiological physics are studied in a series of lectures and problem assignments. The basic phenomena experienced in producing, measuring, and absorbing radiation are illustrated. Course is designed to give residents in radiology the necessary background to practice radiology. RADIOLOGY

408. Radiology in Specialty Seminars. (3) Su, F, W, Sp. **SFGH Coulson**

Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. This course includes surgical and medical radiological rounds, consul-

tative tumor board, clinicopathological conferences, and other department grand rounds. RADIOLOGY

409. Radiology in Specialty Seminars. (3) Su, F, W, Sp. Seminar 3 hours. **VA Ovenfors**

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. Radiobiology: Radiation Effects on Genes and Chromosomes. (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

411. Introduction to Nuclear Medicine. (2) Su, F, W, Sp. Prerequisite: Concurrent enrollment in Radiology 421. **Hoffer and Staff**

Introduction to basic nuclear medicine diagnostic procedures, both *in vivo* and *in vitro*, and therapy with radiopharmaceuticals. RADIOLOGY

412. Pathology. (1) Su, F, W, Sp. **VA Ovenfors**

Course includes review of surgical pathology material and attendance at autopsy rounds. RADIOLOGY

413. Pathology. (1) Su, F, W, Sp. **SFGH Minagi**

Course includes presentation of pathological material of special interest to radiologists with emphasis on the correla-

tion of diagnostic X rays and pathological findings and a study of the pathology of patients under radiation treatment. RADIOLOGY

414. Physics of Diagnostic Radiology. (2) W, Sp. Prerequisite: Radiology 406. Lecture 1½ hours. Lab 2 hours. **Seidlitz**

A seminar course with laboratory experiments designed to acquaint the student with current knowledge of physics applicable to diagnostic radiology. Topics include generation and extraction of radiologic information, image conversion, recording methods, and special purpose equipment. RADIOLOGY

419. Growth Kinetics of Cells, Tissues, and 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 Seminars. (1) F, W, Sp. **Hoffer**

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

421. Nuclear Medicine Physics (2) Su, F, W, Sp. Prerequisite: Residents assigned to nuclear medicine section.

Perez-Mendez, L. Kaufman

Introduction to physics of radioactivity, nuclear instrumentation, and gamma ray imaging techniques. RADIOLOGY

422. Basic Radiological Sciences. (3) Su.

Perez-Mendez, L. Kaufman

Course intended for all first year residents in radiology; provides an introductory survey of radiobiology, diagnostic X-ray physics, radioactivity, and radiation instrumentation. RADIOLOGY

450. Clinical Nuclear Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Radiology 422. **Hoffer 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. (1½ per week) Su, F, W, Sp. Prerequisite: Radiology 450. **Margulis**

Residents, under supervision, carry out radiological examination and interpretation of X-rays of patients referred from wards and outpatient clinics. The chief resident has certain administrative duties relative to the resident training program. RADIOLOGY

452. Clinical Diagnostic Radiology (1½ per week) Su, F, W, Sp. Prerequisite: Radiology 450. **VA Ovenfors**

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. (1½ per week) Su, F, W, Sp. Prerequisite: Radiology 450.

SFGH Coulson

Residents are responsible for the diagnostic and therapeutic activities of the department under the direction of staff radiologists including diagnostic consultations and reports, history-taking, physical examinations, radiation therapy, and follow-up of patients referred for the therapeutic consultations. RADIOLOGY

455. Radioactivity Laboratory. (1½ per week) Su, F, W, Sp. Prerequisite: Residents assigned to nuclear medicine section and consent of instructor. **Perez-Mendez**

Course is designed to teach accurate measurement radioactivity techniques for biomedical purposes. RADIOLOGY

Removable Prosthodontics

109. Removable Prosthodontics: Clinical Practice. (0-8½) F, W, Sp. Prerequisite: Third year standing. Clinic variable. **Firtell**
RESTOR DENT

110B-C. Elementary Complete Denture Prosthodontics. (1) W, Sp. Prerequisite: Concurrent enrollment in Removable Prosthodontics 116B-C. Removable Prosthodontics 110B is a Prerequisite to 110C. Lecture 1 hour. **Harman, Firtell, Brigante**

Lectures on the elementary principles of complete denture prosthodontics emphasizing the biological background and clinical application of the technical steps. RESTOR DENT

116B-C. Elementary Complete Denture Prosthodontics. (2-2) W, Sp. Prerequisite: Concurrent enrollment in Removable Prosthodontics 110B-C. Removable Prosthodontics 116B is Prerequisite to 116C. Lab 6 hours. **Harman, Firtell, Brigante**

A laboratory course on the elementary principles of complete denture prosthodontics. Laboratory exercises demonstrate technical and clinical procedures. RESTOR DENT

122. Immediate Dentures. (1) W. Prerequisite: Removable Prosthodontics 110B-C, 116B-C and 126.01. Concurrent enrollment in Removable Prosthodontics 126.02. Lecture 1 hour. **Fitzloff**

Presentation of clinical procedures for immediate dentures. RESTOR DENT

123. Maxillofacial Prosthesis. (1) Sp. Prerequisite: Removable Prosthodontics 110B-C, 116B-C, 122, 126.01 and 126.02. Lecture 1 hour. **Zlotolow**

An introductory course including lectures on maxillectomy, mandibulectomy, facial and cranial prosthesis. RESTOR DENT

126.01 Partial Dentures. (3) F. Prerequisite: Removable Prosthodontics 116B-C. Lecture 1 hour. Lab 6 hours. **Herzberg, J. Walsh**

Fundamentals of partial denture design and construction of the partial denture. RESTOR DENT

126.02. Immediate Dentures. (2) W. Prerequisite: Removable Prosthodontics 110B-C, 116B-C and concurrent enrollment in Removable Prosthodontics 122. Lab 6 hours. **Fitzloff**

Course provides experience in fabrication of immediate dentures. RESTOR DENT

126.03. Complete Prosthodontics. (2) Sp. Prerequisite: Removable Prosthodontics 126.01 and 126.02. Lab 6 hours. **Firtell, T. Wood**

Fabrication of complete upper and lower dentures. RESTOR DENT

130A. Treatment Planning and Prosthesis. (1) F. Prerequisite: Removable Prosthodontics 122, 123, 126.01, 126.02 and 126.03. Lecture 1 hour. **A. Green**

Treatment planning for the partially edentulous and the edentulous patient. Course is designed to relate the varying biological and physical factors with the type and design of the prosthesis: fixed partial, removable partial, or complete dentures. RESTOR DENT

130B. Advanced Removable Partial Denture Design. (1) W. Prerequisite: Removable Prosthodontics 130A. Lecture 1 hour. **Krol**

Principles and concepts of partial denture design in relation to clinical dentistry. Treatment planning for removable partial

dentures especially as related to preventive dentistry will be emphasized. Special attention will be given to design of the extension base partial denture. RESTOR DENT

130C. Orofacial Prosthetics. (1) Sp. Prerequisite: Removable Prosthodontics 130B. Lecture 1 hour. **Chierici and Staff**

Biologic principles underlying prosthetic treatment of patients with congenital and acquired malformations, defects and dysfunctions. Included is the development of normal and abnormal speech as it relates to prosthodontics. The basis for prosthetic therapy in temporomandibular joint disorders is also presented. RESTOR DENT

139. Clinical Practice. (0-2½) F, W, Sp. Prerequisite: Satisfactory completion of first and second years in removable prosthodontics. Clinic variable. **Firtell**

Clinical application of principles and techniques taught in the first and second year courses in removable prosthodontics. Students are required to complete a minimum of 2½ units, and have demonstrated satisfactory competence. RESTOR DENT

149. Clinical Practice. (1-1-2-2) F, W, Sp. Prerequisite: Satisfactory completion of Removable Prosthodontics 139. Clinic variable. **Firtell**

Clinical application of principles and techniques taught in the first and second year courses in removable prosthodontics. Students are required to complete a minimum of 6 units. The total units for Removable Prosthodontics 139 and 149 will equal 8½ units. RESTOR DENT

171A-B-C. Complete Prosthodontics. (4-4-4) F, W, Sp. Lecture 1 hour. Lab and Clinic 9 hours. **Regli, M.L. Parker and Staff**

Instruction in clinical and laboratory procedures related to complete prosthodontics. RESTOR DENT

172.01A-B-C. Partial Prosthodontics. (4-4-4) F, W, Sp. Lecture 1 hour, Lab and Clinic 9 hours. **Regli, M.L. Parker and Staff**

Instruction in clinical and laboratory procedures related to partial prosthodontics. RESTOR DENT

172.02. Partial Prosthodontics. (5) SS. Lecture 1 hour. Lab and Clinic 12 hours. **Regli, M.L. Parker and Staff**

Instruction in clinical and laboratory procedures related to partial prosthodontics. Continuation of Removable Prosthodontics 172.01A-B-C. RESTOR DENT

173. Clinical Practice. (4) SS. Prerequisite: Removable Prosthodontics. 171A-B-C, 172.01A-B-C and 172.02. Lab 12 hours. **Regli, M.L. Parker and Staff**

Clinical practice on patients for partial and complete prosthodontics. RESTOR DENT

174A-B-C. Complete Prosthodontics. (3-3-4) F, W, Sp. Prerequisite: Removable Prosthodontics 171A-B-C. Lecture 1 hour. Lab 6 hours F, W; 9 hours Sp. **Regli, M.L. Parker, McCormick, Wilde**

Instruction in clinical and laboratory procedures related to complete prosthodontics. Course will include in-service hospital treatment at VA. RESTOR DENT

175A-B-C. Partial Dentures. (3-3-4) F, W, Sp. Lecture 1 hour. Lab and Clinic 6 hours F, W; 9 hours Sp. **Regli, M.L. Parker and Staff**

RESTOR DENT

176A-B-C. Special Study for Postdoctoral Students. (1-5) F, W, Sp. Research 3-15 hours. **Regli**

Original investigation in the field of removable prosthodontics. RESTOR DENT

177. Prosthodontics Seminar. (4) F, W, Sp. Prerequisite: Students in removable prosthodontics certificate program must enroll in this course each quarter and summer session for entire program. Seminar 4 hours. **Regli, M.L. Parker and Staff**

Review of the literature related to prosthodontics. RESTOR DENT

180. Prosthodontics. (1) W, Sp. Prerequisite: Removable Prosthodontics 130C. Lecture 1 hour. **Brigante**

An elective course offering instruction in procedures and materials other than those normally used in the clinic. RESTOR DENT

181. Fixed and Removable Methods. (1) F, W. Prerequisite: Fourth year standing. Lecture 1 hour. **Augsburger**

Concepts of vertical and cross-arch stabilization relating to partial prosthodontics are reviewed. Preservation of a few remaining teeth and the edentulous ridges through bioengineering principles is emphasized. Patient psychology, periodontics, endodontics and dental implants are related to removable prosthodontics. RESTOR DENT

189.01 Prosthodontics: Complete and Removable Partial. (0-9) F, W, Sp. Prerequisite: Removable Prosthodontics 109. Clinic Variable. **Regli**

Continuation of clinical experience at the level of Removable Prosthodontics 109. RESTOR DENT

189.02 Complete Prosthodontics. (0-7½) SS. Prerequisite: Fourth year standing. Lab and Clinic variable. **Regli**

Work is done in a clinic location on an Indian reservation near Albuquerque, New Mexico. Each student will treat five patients. For clinical work completed, credit will be given to satisfy part of the Removable Prosthodontics 109 requirement. RESTOR DENT

189.04. Clinical Maxillofacial Prosthetics. (0-6) F, W, Sp. Prerequisite: Consent of instructor and Clinic Review Committee. Lab variable. **T. Curtis**

Senior dental students will observe and perform maxillofacial prosthodontic ser-

vices 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

199. Laboratory Project in Removable Prosthodontics. (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. RESTOR DENT

400. Multidisciplinary Approach to Maxillofacial Prosthetics. (1) F, W, Sp. Lecture 1 hour. **T. Curtis**

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 Prosthetics. (1-6) F, W, Sp. Lab variable. **Zlotolow**

Residents and advanced prosthodontic students will observe and perform maxillofacial prosthodontic services for patients in the Maxillofacial Clinic. A detailed case history will be required each quarter. Attendance at related tumor board conferences and field trips to other therapy centers. RESTOR DENT

Restorative Dentistry

171A-B-C. Advanced Restorative Dentistry. (3-3-3) Yr. Lecture 1 hour. Clinic 6 hours.

Schuchard, M. Stark

Seminars and current literature review correlating basic and preclinical science with the practice of restorative dentistry. Selected cases requiring medical and dental diagnostic procedures and treatment planning will be presented. RESTOR DENT

173. Postdoctoral Clinical Practice. (2) SS. Prerequisite: Restorative Dentistry 171A-B-C. Clinic 60 hours. **Schuchard, M. Stark**

Clinical practice applying advanced restorative procedures. RESTOR DENT

174A-B-C. Advanced Restorative Dentistry. (3-3-3) F, W, Sp. Prerequisite: Restorative Dentistry 171A-B-C. Lecture 1 hour. Clinic 6 hours. **Schuchard, M. Stark**

Advanced restorative dentistry. Seminars will be directed toward the psychology of patient management in relation to treatment planning. The clinical phase will provide experience in contact instruction. RESTOR DENT

175. Postdoctoral Clinical Practice. (2) SS. Prerequisite: Restorative Dentistry 174A-B-C. Clinic 60 hours. **Schuchard, M. Stark**

Clinical practice applying advanced restorative procedures. Continuation of Restorative Dentistry 173 on an advanced level. RESTOR DENT

176B-C. Clinical Research. (1-5, 1-5) W, Sp. Prerequisite: Restorative Dentistry 171A-B-C, 173, and 174A-B-C. Research 3-15 hours. **Schuchard, M. Stark**

A research project in the field of restorative dentistry. Findings must be prepared for publication. RESTOR DENT

177.01A-B-C. Seminar. (2-2-2) F, W, Sp. Seminar 2 hours. **Schuchard, M. Stark**

Study and interpretation of current literature contributing to the advance of dental science. Discussion is directed toward defining areas of further study and considerations of modifying scope of dental education to include advances. Research protocols are developed and implemented. RESTOR DENT

177.02. Seminar. (2) SS. Prerequisite: Restorative Dentistry 177.01A-B-C. Seminar 2 hours. **Schuchard, M. Stark**

Continuation of Restorative Dentistry 177.01A-B-C. RESTOR DENT

177.03A-B-C. Seminar. (2-2-2) F, W, Sp. Prerequisite: Restorative Dentistry 177.02. Seminar 2 hours. **Schuchard, M. Stark**
Continuation of Restorative Dentistry 177.02. RESTOR DENT

177.04. Seminar. (2) SS. Prerequisite: Restorative Dentistry 177.03A-B-C. Seminar 2 hours. **Schuchard, M. Stark**
Continuation of Restorative Dentistry 177.03A-B-C. RESTOR DENT

Sociology

112. American Society and Its Problems. (3) Sp. Lecture 3 hours. **Staples**

Presentation of prominent sociocultural features of dominant systems in American society. Integration and dissonance between and among these systems with emphasis on major social problems which result, such as racism, inequality, youth, disjunction between technology and humanistic values. SOC BEH SC

120. Statistics. (3) Sp. Lecture 2 hours. Lab 3 hours. Enrollment limited. **Newcomer, Swan**

Emphasis on basic logic of quantitative methods, the application of appropriate statistical techniques to given research objectives, and the ability to use the statistics and interpret the results. Statistical package for social sciences and manual computation will be used. SOC BEH SC

122. Health and Illness in American Society. (3) F. Lecture 3 hours. **Estes**

Broad survey of features of American society that produce either health or morbidity or both. A variety of significant factors is explored in conjunction with ideological implications for the quantity and quality of health care services. SOC BEH SC

1123. Social Systems Theory and Application to Nursing Practice. (2) W. Prerequisite: Fifth quarter standing or consent of instructor. Lecture 2 hours. **Schatzman**

Course presents a theoretical framework from which patient care and health delivery systems can be analyzed, approached, and influenced by the professional nurse. SOC BEH SC

126. Families of the Third World. (2) § W. Lecture 2 hours. Lab 3 hours. **Staples**

Examination of family structures and dynamics among Third World peoples. Families to be discussed include Africans and Afro-Americans, Asians, Native Americans and Latinos. Emphasis on continuities in the family life of these groups in their native land and the United States. SOC BEH SC

132. Individual and Change. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours. **Olesen**

The relationship of social structures to individuals and their behavior. Emphasis will be on individuals as members of society rather than on individuals or society as such. SOC BEH SC

134. Women's Roles in Health Care and Healing Systems. (3) § F, W or Sp. Lecture 3 hours. **Olesen**

Analysis of sex roles in general and women's roles in particular in health care receipt and delivery, with special emphasis on recruitment problems to health professions, images of women in therapeutic situations, and crosscultural features of health care. SOC BEH SC

136. Pain: Social, Organizational and Interactional Aspects. (3) § Sp. Lecture 2 hours. Lab 3 hours. **A. Strauss**

Pain as experienced, expressed, and managed in a variety of settings by patients, staff, and family. Sociological and organizational perspectives on assessing, legitimizing, and controlling pain. SOC BEH SC

137. Sociology of Sexual Behavior. (3) § F. Lecture 2 hours. Lab 3 hours. **Staples**

A sociological perspective of human sexuality as expressed in various forms, varied

among different segments of the population and influenced by diverse social forces, with emphasis on sexual relations as an element of social relations. SOC BEH SC

138. Sociology of Change in Health Care Systems (3) § W, Sp. Prerequisite: Open to upper division and graduate students. Lecture 3 hours. **Staff**

Review of social change in health care systems with particular attention to implications of change at all system levels such as patients, alternative curing practices, policies, new occupations, types of future care. Debate on and examination of key issues. SOC BEH SC

167. Social Organization of Health Care With Primary Emphasis on Hospitals. (2) F. Prerequisite: Consent of instructor. Lecture 2 hours. **Staff**

An inquiry into the nature of the organizational forms by which health care is distributed, with particular emphasis on hospital organization and the interaction among health care personnel. SOC BEH SC

168. Contemporary Social Problems (3) § F. Lecture 2 hours. **Staff**

The genesis and natural history of social problems and a substantive survey of such leading contemporary problems as race relations, juvenile delinquency, the role of women in American society, and the distribution of health services in the United States. SOC BEH SC

198. Supervised Study in Sociology. (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 and Psychological Aspects of Chronic Illness. (3) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **A. Strauss**

Problems faced by chronically ill persons and their families including crisis management, handling symptoms, managing regimens, social isolation, phases of the disease, temporal difficulties, normalization, dying. Some policy issues, including those confronting health care personnel as well as the general public. SOC BEH SC

204. Sociology of Psychiatry. (3) § Sp. Lecture 3 hours. **Schatzman**

Psychiatric practices, professional careers, and institutions conceptualized sociologically, as historic, symbolic systems and interactional processes. SOC BEH SC

205. The Sociology of Health Professions and Occupations. (4) § F. Lecture 4 hours.

A. Strauss

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

206. Sociology of Devalued Occupations. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2-4 hours.

Olesen

Review and analysis of occupational theory with special reference to the trends, both social and psychological, involved in occupations customarily considered "dirty" or devalued. Analysis of the organization of such work; the life styles of the persons who pursue it. SOC BEH SC

207. Microsociology. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2-4 hours.

Olesen

Analysis of social behavior utilizing concepts of territoriality, proxemics, social schema; review of relevant animal studies, as well as such concepts as privacy; consideration of cross-cultural uses of space. SOC BEH SC

208. Social Psychology of Health and Illness. (3) § W. Prerequisite: Required for graduate students in sociology. Lecture 2 hours. Lab 3 hours.

Olesen

The relationship of social class, ethnic identification, group membership, family structure, occupation and life style to health and illness, and therapeutic interaction of laymen and health professionals. SOC BEH SC

212A-B. Sociological Theory. (2-2) § F, W. Prerequisite: Sociology 212A is prerequisite to 212B. Required for graduate students in sociology. Lecture 2 hours.

A. Strauss (F), Olesen, Staples (W)

An examination and evaluation of 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

213. Studies in Participant Observation. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours.

Schatzman

A basic course in the logic and operations of social research in the field. Lectures, readings and discussion on research strategies: entree, watching, listening, data recording, and analyzing. SOC BEH SC

214A. Discovery of Social Reality. (3) § F. Prerequisite: Required for graduate students in sociology. Lecture 2 hours. Lab 3 hours.

Olesen

Practicum in sociological field observation; course is designed to sensitize students to demographic and behavioral components of social life in public places. Observation of human aggregates in varied neighborhoods of a metropolis. Instruction in observational techniques and data organization. SOC BEH SC

214B. Discovery of Social Reality. (3) § W. Lecture 2 hours. Lab 3 hours.

A. Strauss

Sociological field observation. Instruction in observation, interviewing, the organization of data, descriptive analysis, and research writing. Continuation of Sociology 214A. SOC BEH SC

214C. Qualitative Analysis (3) § F, Sp. Prerequisite: Sociology 214A and 214B. Lecture 2 hours. Lab 3 hours.

A. Strauss

Examination of modes of analysis applicable to qualitative data; emphasis on dimensions and properties exhibited in student-presented data. SOC BEH SC

214D. Qualitative Analysis. (3) § F, W, Sp. Prerequisite: Sociology 214A, 214B and 214C. Lecture 2 hours. Lab 3 hours.

A. Strauss

Qualitative analysis; the development of substantive and formal sociological theory. Emphasis on student-presented data and their conceptualization. SOC BEH SC

215. Problems in Microsociology: Urban Life. (2-4) § Sp. Prerequisite: Consent of instructor. Sociology 207 recommended. Seminar 2-4 hours.

Olesen

A graduate research seminar on selected problems in microsociology especially related to urban life, the urban environment, and its bearing on health care settings such as clinics. Application and critique of research and concepts in this area. SOC BEH SC

216. Comparative Organizations. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours.

Staff

A critical review of classical and recent contributions to the sociology of formal organizations. A variety of types of organizations will be considered, with special emphasis on service organizations. SOC BEH SC

217. Seminar on the Future of the Family. (3) § Sp. Lecture 2 hours. Lab 3 hours.

Staples

Exploration of changing dating, sexual, sex-role, marital and familial patterns in the United States. Discussion of futuristic models of family life as affected by socio-cultural forces. Special emphasis given to changing sex-role behavior as affecting male-female relationships. SOC BEH SC

219. Political Sociology of Aging. (2-4) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours. **Estes**

Major paradigms in the study of community and national power structures examined in terms of theoretical, methodological, empirical, ideological content. Issues of actual and potential power of the aging considered in light of available data and the major paradigms discussed. SOC BEH SC

220. Seminar in Sociology. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Required for graduate students in Sociology. Seminar 2 hours. Lab 0-6 hours. **Staff**

Doctoral student seminar to discuss methods and problems in current research. Course may be repeated for credit. SOC BEH SC

222. Politics of Planning in the Human Services. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Estes**

Examination of trends in planning for the human services, including the role of government organizations, professionals and consumers in generating and benefiting from major human services planning reforms. Planning in the fields of health and aging is emphasized. SOC BEH SC

224. Epistemological Problems in the Social Sciences. (4) § W, Sp. Prerequisite: Consent of instructor. **Staff**

Central epistemological problems in the social sciences and their bearing on issues of the research role, modes of conceptualization, scientific communication, and public information. SOC BEH SC

230. Analysis of Symbolic Systems. (2-4) § Sp. Prerequisite: Consent of instructor. **Olesen**

Critical inspection and analysis of American symbolic systems, such as educational institutions and mass media of communication with respect to the diffusion and alteration of values in specific sections of the society, such as health professions. SOC BEH SC

232. Advanced Problems in Social Psychology. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2-4 hours. **Olesen and Staff**

An advanced seminar dealing with theoretical and conceptual problems in various areas of social psychology. Recent developments in theory and concept will be reviewed. SOC BEH SC

233. Seminar in Urban Social Relations. (3) § F. Lecture 2 hours. Lab 3 hours. **A. Strauss**

Research seminar on selected topics bearing on the social psychology of urban living and the sociology of cities. SOC BEH SC

234. Health and Aging. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2-4 hours. **Estes**

Examination of the health status of the aged in the United States in light of relevant biological, behavioral, sociocultural, environmental factors. Social, cultural, economic factors affecting organization, financing, and delivery of health care to the aging population will be examined. SOC BEH SC

249. Studies in Sociology. (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

250. Research. (1-8) § F, W, Sp. Prerequisite: Admission to doctoral study and consent of instructor. **Staff**

SOC BEH SC

298. Thesis or Comprehensive Examination. (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. 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

210. Fundamentals of Auditory Neurobiology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours.

R. Snyder, Merzenich

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

220. Inner Ear Anatomy. (3) § W. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 6 hours. **Staff**

Consideration of the gross anatomy, histology, and fine structure of the mammalian cochlea and vestibular sense organs. Basic aspects of the phylogenetic and embryologic development of the ear will be included. Lectures, demonstrations, dissections, and student presentations. OTOLARYN

230. Seminar on Research in Speech Reception. (3) § W. Prerequisite: Consent of instructor. Seminar 3 hours. **M. White**

Consideration of the significant features of the acoustic speech signal; transaction characteristics of the normal and pathological cochlea; and the neural encoding of important features of the speech signal at the eighth nerve and cochlear nucleus. OTOLARYN

231. Seminar on Research in Speech Production. (3) § Sp. Prerequisite: Consent of instructor. Seminar 3 hours. **Izdebski**

Review of research on respiratory function in speech, phonation physiology, and articulation processes. Measurements and recording techniques of these functions with application to normal and pathological aspects of speech production are considered. OTOLARYN

247. Special Studies in Audiology. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-2 hours. Lab 0-3 hours. **Owens**

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.

Flower, Owens and 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

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

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

Surgery

110. Required Core Clinical Clerkship in General Surgery. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. **Ebert, Blaisdell, L. Way, V. Richards**

Core general clerkship in surgery. Students assigned to wards and clinics at UC, SFGH, VA, and C. The application of basic sciences, pathology, radiology, and psychiatry to surgery is emphasized in ward rounds and seminars. SURGERY

111. Required Core Clinical Clerkship in Advanced Surgery. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110.

T. Hunt, Blaisdell, L. Way

Students serve as senior clerks on the wards and in the operating rooms at UC, SFGH, and VA. Rounds and seminars focus on the physiological approach to surgery. SURGERY

140.01. Advanced General Surgery Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. **T. Hunt, Blaisdell, L. Way, V. Richards,**

Heer, Peter, P. Smith

Senior clinical clerks participate in clinic, ward, and operating room with direct involvement in postoperative and preoperative care at UC, SFGH, VA, C, RDMC, VMC, and K. SURGERY

140.02. Clinical Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111. **Ebert**

Clinical clerkship in approved hospitals in other universities by special arrangement and approval of the chairman of the department and the Dean. SURGERY

140.04. Vascular Surgery Clerkship. (1½ 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. (1½ per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111.

UC B. Roe, PMC Gerbode, VA Ellis

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. SFGH Emergency Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111.

R. Lim and Teufel

Four weeks participation on the Emergency Ward at SFGH. Students will work-up selected cases, perform minor procedures under supervision, and follow all surgical emergencies as time permits. SURGERY

140.07. Shock and Trauma Research. (1½ per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111. **Sheldon**

Course involves clinical and laboratory investigation and a detailed study of specific patients with trauma and shock. SURGERY

140.08. General Surgery Clinical Clerkship at C. (1½ per week) Su, F, W, Sp. Prerequisite: Second and third year clinical clerkship in Surgery. **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. Clinical Clerkship in Trauma Surgery. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111 and consent of instructor. **Sheldon**

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. Clinical Experience in Cardiothoracic Surgery. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Surgery 110 or 111. **Ellis**

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 Elective. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110. **Trunkey**

Clinical rotation on a large Burn Center Service. Pathophysiology of thermal injury including pulmonary aspects will be stressed. Students act as integral members of the team and participate directly in patient care. SURGERY

140.12. Advanced Clerkship in Plastic and Reconstructive Surgery at UC, VA, and SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 111. **Vasconez, Mathes, Gant**

Participation in clinical activities of plastic surgery. Students work on patients and take part in operative procedures, as well as manage the postoperative patient. Exposure to patients with general reconstructive problems; trauma to head and neck, hand surgery, and congenital anomalies. SURGERY

140.13. Clinical Clerkship in General Surgery at VA and Community Hospital in San Joaquin Valley. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. **O'Hara**

Course provides broad clinical experience in general surgery in close association with practicing surgeons in a variety of settings in Central San Joaquin Valley with contrasting facilities and patient populations. Clerkship is individually designed according to the student's interests. SURGERY

160.03. Clinical Cardiopulmonary Surgery. (2) Sp. Prerequisite: Third or fourth year standing. Lecture 2 hours. **Ebert, B. Roe, J. Hutchinson, N. Fishman**

Seminars are conducted on a series of subjects relating to cardiopulmonary surgery, which may be attended separately or in conjunction with weekly rounds on cardiopulmonary patients. SURGERY

160.05. Advanced Surgery Reading Course. (2) F, Sp. **Trunkey**

A weekly seminar where previously assigned papers are discussed and critiqued. Papers representing the classical and current concepts in general surgery are covered. SURGERY

160.06. Total Parenteral Nutrition Clerkship. (5) Su, F, W, Sp. Prerequisite: Surgery 110 and consent of instructor. Lecture 3 hours. Lab 6 hours. **Sheldon**

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

170.01. Basic Surgical Techniques. (1) F, W. Prerequisite: Anatomy 100. Lab 4 hours. **Feduska**

Course emphasizes the basic principles of operative surgery including aseptic and operative techniques. Students function as surgeon, assistant surgeon, and anesthesiologist in the performance of specific operations on anesthetized dogs. Post-operative evaluation, management, and cardiopulmonary resuscitation are also emphasized. SURGERY

170.02. Emergency Medical Care at SFGH. (1) F. Lecture 2 hours given in alternate weeks. **R. Lim and Staff**

Topics include first aid care with an introduction to splinting, resuscitation, psychiatric and civil emergency. Format includes lectures, discussions, films, practice, and tour of Mission Emergency. Course is offered primarily for first and second year medical students. SURGERY

198. Supervised Study in Surgery. (1-5) F, W, Sp. Prerequisite: Consent of instructor. **Ebert 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 in Surgery. (1-5) F, W, Sp. Prerequisite: Consent of instructor. **Ebert 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 Surgical Staff Conferences. (1½) F, W, Sp. **SFGH Blaisdell, UC Ebert, 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 Surgical Pathology Seminar. (1) F, W, Sp. Interns and residents.

UC Rambo

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 Surgical Seminar. (2) Su, F, W, Sp. Interns and residents.

RDMC Heer, SFGH Blaisdell, UC Ebert, 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. (1½ per week) Su, F, W, Sp. **UC Ebert, SFGH Blaisdell, VA L. Way, RDMC Heer, C V. Richards**

Residents, under supervision, are responsible for the 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 Surgical Laboratory. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 450 and 452 may not be taken concurrently. **UC Ebert, SFGH Blaisdell, VA L. Way**

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 and Experimental Surgery. (10) Su, F, W, Sp. **Ebert**

Assistant residents in off-campus hospitals approved by the chairman 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. (1½ per week) Su, F, W, Sp. **SFGH Blaisdell**

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. (1½ per week) Su, F, W, Sp. **UC Ebert**

Interns, under supervision, are responsible for the preparation of case records, laboratory work, preoperative patient preparation, assistance at operations, postoperative care, and attendance at follow-up clinic. SURGERY

Teaching Methodology

170. Teaching Methods. (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

180.02A-B-C. Teaching Methods. (0-3, 0-3, 0-3) F, W, Sp. Prerequisite: Fourth year standing or consent of instructor. Lecture 1 hour. **R. J. Miller**

Predominantly group discussion based on selected readings in educational methodology. Specialists in education are invited to participate. Practical experience in teaching is included in Teaching Methodology 186.01A-B-C. Students teach in selected courses under supervision. GEN DENT

186.01A-B-C. Practice Teaching. (0-3, 0-3, 0-3) F, W, Sp. Lab 3 hours. **R. J. Miller**

Practical teaching experience in selected courses under the supervision of senior members of the staff. GEN DENT

Urology

Core Clerkship — Surgery 110 includes clinical clerkships in the outpatient clinics and hospitals, assistance at operations, and participation in residents' seminars.

140.01. Urology Clinical Clerkship at UC. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110. **Tanagho**

Students work as interns on the Urology Service at UC. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

140.02. Urology Clinical Clerkship. (1½ 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 Urology Clinical Clerkship at VA. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110. **Meares**

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. Urology Clinical Clerkship at SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 100. **McAninch**

Students work as interns on the Urology Service at *SFGH*. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

170.01. Fundamentals of Urology. (2) F, W, Sp. Prerequisite: Consent of instructor.

Tanagho and Staff

Seminar and library research. UROLOGY

199. Laboratory Project in Urology. (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. Seminar. (1½) Su, F, W, Sp. **Tanagho**

Seminar includes study of the basic sciences and urologic roentgenology with members of the attending staff. UROLOGY

401. Experimental Laboratory. (2) Su, F, W, Sp. **Tanagho**

Course includes experimental investigation in urologic problems. UROLOGY

402. Urologic Clinical Seminar. (2) Su, F, W, Sp. **Tanagho**

Seminar includes discussion of diagnosis and treatment of patients in the urology wards with the attending staff. UROLOGY

403. General Urologic Staff Conference. (½) Su, F, W, Sp. **Tanagho**

Conference includes presentation and discussion of urologic problems by the house staff and faculty. UROLOGY

450. Clinical Urology. (1½ per week) Su, F, W, Sp.

UC Tanagho, SFGH McAninch, VA Meares

First year residents care for patients in the wards and outpatient clinics. Second and third year residents, under supervision, perform instrumental examinations on clinic patients. Senior residents, under supervision, perform instrumental and surgical procedures and have administrative, clinical, and teaching responsibilities. UROLOGY

490. Clinical Urology. (1½ per week) Su, F, W, Sp. **SFGH 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