

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO **GENERAL CATALOG** 1983-

ucsf

Courses

This chapter is a compendium of the courses of instruction offered by the University of California San Francisco.¹³ Courses are arranged in numerical order under alphabetically listed subject headings. As these headings do not in every case correspond to a department, the responsible department or other instructional unit is indicated at the end of the course description for each course. Abbreviations used for these departments or instructional units are spelled out in the list below.

Inquiries about individual courses should be addressed to the indicated department or instructional unit for information that is not included here, nor in the separately published bulletins of the four Schools or of the Graduate Division. These bulletins, available from the respective Schools or the Graduate Division, indicate, for example, the place of various courses in the different established curricula. Faculty rosters may also be found in the bulletins of the four Schools.

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

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

second (tens) and first (units) digits vary among the schools. A detailed explanation of course numberings is available from the Office of the Dean of each school. The symbol § following the units designates a course approved for credit toward a graduate academic degree.

Sessions—Su = summer term, SS = summer session, F = fall quarter, W = winter quarter, Sp = spring quarter.

Departments and Other Instructional Units

ANATOMY	Department of Anatomy, School of Medicine.
ANESTHESIA	Department of Anesthesia, School of Medicine.
BIOCHEM	Department of Biochemistry and Biophysics, School of Medicine.
CL PHARM	Division of Clinical Pharmacy, School of Pharmacy.
DERMATOL	Department of Dermatology, School of Medicine.
EPID INTL HLTH	Department of Epidemiology and International Health, School of Medicine.
FAM CM MED	Division of Family and Community Medicine, School of Medicine.
FAM HLTH	Department of Family Health Care Nursing, School of Nursing.
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 RS	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.
PHARMACOL	Department of Pharmacology, School of Medicine.
PHARMACY	Department of Pharmacy, School of Pharmacy.
PHYS THER	Curriculum in Physical Therapy, School of Medicine.
PHYSIOL NURS	Department of Physiological Nursing, School of Nursing.
PHYSIOLOGY	Department of Physiology, School of Medicine.
PSYCHIATRY	Department of Psychiatry, School of Medicine.
RADIOLOGY	Department of Radiology, School of Medicine.
RESTOR DENT	Department of Restorative Dentistry, School of Medicine.
SOC BEH SC	Department of Social and Behavioral Sciences, School of Nursing.

SURGERY	Department of Surgery, School of Medicine.
UROLOGY	Department of Urology, School of Medicine.

Hospitals

AB	Alta Bates Hospital, Berkeley.
AS	Atascadero State Hospital, Atascadero.
C	Children's Hospital of San Francisco, San Francisco.
CHMC	Children's Hospital Medical Center of Northern California, Oakland.
CHS	Community Hospital of Sonoma, Santa Rosa.
CM	Ernest V. Cowell Memorial Hospital, Berkeley.
DCH	Davis Community Hospital, Davis.
FCH	Fresno Community Hospital and Medical Center, Fresno.
FR	French Hospital Medical Center, San Francisco.
GS	Good Samaritan Hospital of Santa Clara Valley, San Jose.
H	Highland General Hospital, Oakland.
K	Kaiser Foundation Hospital, San Francisco.
KHDV	Kaweah Delta District Hospital, Visalia.
KP	Kaiser Foundation Hospital, Oakland.
KSSF	Kaiser Foundation Hospital, South San Francisco.
L	Letterman Army Medical Center, San Francisco.
LPPI	Langley Porter Psychiatric Institute, San Francisco.
MG	Marin General Hospital, Greenbrae.
MHLB	Memorial Hospital Medical Center of Long Beach, Long Beach.

MM	Mills Memorial Hospital, San Mateo.
MZ	Mt. Zion Hospital and Medical Center, San Francisco.
NAT	Natividad Medical Center, Salinas.
NRMC	Naval Regional Medical Center, Oakland.
NS	Napa State Hospital, Imola.
OC	O'Connor Hospital, San Jose.
P	Peralta Hospital, Oakland.
PH	Peninsula Hospital and Medical Center, Burlingame.
PMC	Pacific Medical Center, San Francisco.
RDMC	Ralph K. Davies Medical Center, San Francisco.
RLA	Rancho Los Amigos Hospital, Downey.
S	Stanford University Medical Center, Palo Alto.
SCC	Santa Clara Valley Medical Center, San Jose.
SFGH	San Francisco General Hospital Medical Center, San Francisco.
SGH	Scenic General Hospital, Modesto.
SHH	Silas B. Hays Army Community Hospital, Fort Ord.
SJ	San Joaquin General Hospital, Stockton.
SM	Samuel Merritt Hospital, Oakland.
SMC	Seton Medical Center, Daly City (formerly Mary's Help Hospital).
SRM	Santa Rosa Memorial Hospital, Santa Rosa.
SS	Sonoma State Hospital, Eldridge.
SSF	Shriners Hospital for Crippled Children, San Francisco.
STA	St. Agnes' Hospital and Medical Center, Fresno.
STF	St. Francis Memorial Hospital, San Francisco.
STL	St. Luke's Hospital, San Francisco.
STM	St. Mary's Hospital and Medical Center, San Francisco.

¹³Additional courses are offered by the Schools under their programs of Continuing Education (see "Addresses" section).

- UC** University of California Hospitals and Clinics, San Francisco (includes Long, Moffitt, and Ambulatory Care Center).
- UCI** University of California Irvine Medical Center, Orange.
- UCLA** UCLA Center for Health Sciences, Los Angeles.
- UCSD** University Hospital, University of California Medical Center, San Diego.
- VA** Veterans Administration Medical Center, San Francisco.
- VAF** Veterans Administration Medical Center, Fresno.
- VAM** Veterans Administration Medical Center, Martinez.
- VAPA** Veterans Administration Medical Center, Palo Alto.
- VASD** Veterans Administration Hospital, San Diego.
- VMC** Valley Medical Center of Fresno, Fresno.

Anatomy

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

Sutherland and Staff

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

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

Sutherland and Staff

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

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

Sutherland and Staff

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

102. Histology. (5) § F. Prerequisite: Concurrent enrollment in Biochemistry 100A-B. Lecture 3 hours. Lab 4 hours.

J. Long and Staff

Course covers the microscopic organization of cells, tissue, and organs with emphasis on relationships of structure and function. Endocrine and reproductive systems are covered in a separate course. Intended for students in the School of Medicine and for beginning graduate students. ANATOMY

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

H. Ralston, Stryker and Staff

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

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

J. Elias and Staff

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

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

Sutherland

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

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 the 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. ORAL MED

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

R. H. Kramer

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

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

Asling

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

156A. Hum Anat: Trunk & Upper Extrem. (3) F. Lecture 2 hours. Lab 3 hours.

W. Kaiser

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. Hum Anat: Head, Neck & CNS. (4) W. Lecture 3 hours. Lab 3 hours.

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 & 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 Clin 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, I. Gilbert

This elective course is designed to provide the physical therapist with information on common human congenital defects. The effects of environmental and genetic factors are discussed. 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

170.05. Abnormal Gross/Neuroanatomy. (1) Sp. Prerequisite: Anatomy 103 or concur-

rent enrollment. Medical student standing. Seminar 1 hour.

deGroot

Abnormal changes in gross/neuroanatomy will be discussed in terms of clinical correlation and neuroradiological diagnostic methods. ANATOMY

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

Asling

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

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

Ryder

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

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

Asling

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

and keep an anatomy atlas usable in radiologic tomography. ANATOMY

175. Congenital Abnormalities. (2) § W. Prerequisite: Anatomy 100 or equivalent and consent of instructor. Seminar 2 hours.

Monie

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

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

Staff

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

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

Staff

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

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

S. Wolff

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

202. Tissue Culture Methods. (1) § W. Prerequisite: Basic knowledge of biological principles and consent of instructor. Seminar 1 hour.

J. Elias

Course covers the potentials and limitations of culture methods, assessing effects of various agents, such as hormones and vitamins, in controlled environment and use of culture methods with autoradiography or electron microscopy. ANATOMY

203. Techniques in Cell Biology. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Not offered 1983-84. **S. Rosen, Werb**

Course introduces the literature and provides training in topics such as lipid, carbohydrate, peroxidase, general enzyme histochemistry, and ultrastructural cytochemistry; immunoelectrophoresis; immunoelectron microscopy; cell fractionation. Content of course will vary from year to year depending upon students' needs and interests. ANATOMY

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

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

205. Biology of Mammalian Development. (3) § F. Prerequisite: Undergraduate course in embryology or consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1983-84. **G. R. Martin**

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

215. Cell Structure & Function. (3) § Sp. Prerequisite: An elementary knowledge of cell ultrastructure and biochemistry. Lecture 2 hours. Seminar 2 hours. **J. Long and Staff**

An advanced presentation of the relationships between structural organization and the physiological activities of the cell. Laboratory or library research in mammalian embryology or directed reading on current developments in gametogenesis, fertilization, cleavage, implantation, organogenesis, or molecular differentiation. ANATOMY

217. Adv Head & Neck Anatomy for Dent. (2-6) § Sp. Prerequisite: Anatomy 117A-B or

equivalent and consent of instructor. Lecture 2 hours. Lab 0-12 hours. **R. D. 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. Anatomy Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. **Staff**

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

225. Experimental Neuroanatomy. (4) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Lab 3 hours. Offered in alternate years. Not offered in 1983-84. **H. Ralston and Staff**

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. Devel of Cellular & Molec Biol. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Offered in alternate years. Not offered 1983-84. **Calarco**

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

233. Mammalian Chimeras. (2) § Sp. Prerequisite: Anatomy 205 or consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1983-84. **Pedersen**

Course focuses on procedures for producing mammalian chimeras and the use of chimeras in analysis of development. Topics to be covered include analysis of parthenogenesis, cell commitment, differentiation, growth control, neoplasia, germ cells, and reproduction. ANATOMY

235. Developmental Neurobiology. (1-3) § W. Prerequisite: Consent of instructor. Lecture 1-3 hours. Offered every three years. Offered 1985-86. **J. LaVail, M. LaVail, L. Reichardt**

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

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

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

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

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

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

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

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

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

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

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

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

Anesthesia

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

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

140.01. Advanced Anesthesia Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Anesthesia 110. **Strong**

Instruction and experience in cardiopulmonary resuscitation, care of the unconscious patient, and treatment of pain problems. Ro-

tation through *UC, SFGH, and VA*. Attendance at the teaching conferences of the department. ANESTHESIA

140.02. Off-Campus Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Anesthesia 110. **Strong**

Clinical clerkships in approved hospitals by special arrangement and approval of the chairperson of the department. ANESTHESIA

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

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

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. Anesthesia Obstetrical Clerkship. (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 physiologic changes in labor and delivery, placental transfer of drugs, and resuscitation of the newborn. ANESTHESIA

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

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

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

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

400. Anesthesia Staff Conference. (2) F, W, Sp. **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. Special Assignment. (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 Animal Lab 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. Intro to Sociocultural Aspects. (3-4, 3-4) § F, W. Prerequisite: Intended primarily for doctoral students in medical anthropology, and others at graduate standing with consent of instructor. Lecture 3 hours, plus 3 hours independent study for 4 units. Required for and open only to first-year students in the UCSF Ph.D. Program in Medical Anthropology. Two-quarter course. **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

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

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

211A-B-C. Research Training Seminar. (3-4, 3-4, 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. **M. Clark, Lewin, Ablon**

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

217. Statistics. (2) § F, W, Sp. Prerequisite: Anthropology 216. Lecture 2 hours. Lab 3 hours. **Mittness**

Introduction to statistical methods for the social sciences: measurement, selected data characteristics, probability theory, statistical models, descriptive statistics, the general linear model, analysis of qualitative data. Emphasis is on understanding fundamental assumptions and procedures of statistical methods relevant to anthropology. EPID INTL HLTH

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

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

220. Selected Topics. (0) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. **Staff**

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

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

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

222A-B-C. Writing Skills. (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. **Todd**

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

223. Social Network Analysis. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Independent study 3 hours. **Todd, Lewin**

Examination of origins and development of network analysis and the uses to which it has been put, particularly in urban anthropological research; methods and measures for gathering and analyzing network data; applications of network analysis to health and illness behavior. EPID INTL HLTH

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

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

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

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

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

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

231. Ethnopsychiatry. (2-3) § F, W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 units. **M. Clark, Hartog, 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. Anthropology of Aging. (2-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus research project for 3 units. **M. Clark and 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 & 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. Transcult Aspects of Childhood. (2) § F. Prerequisite: Consent of instructor. Open to students in medicine, nursing and graduate departments. Lecture 2 hours, plus research paper. **Mittness**

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 illness will be discussed. EPID INTL HLTH

236. Women & 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 & 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 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 crises. EPID INTL HLTH

240. Urban Anthropology. (2-3) § F, W or 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 subcultural 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. Com Mental Hlth Considerations. (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 & Med. (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, in the contemporary United States. Concepts, theories, and methods drawn from anthropological, legal, medical, and gerontological literature. EPID INTL HLTH

245. Development in Late Adulthood. (3) § Sp. Lecture 2 hours. Lab 3 hours. **Kayser-Jones**

Course covers developmental theory and research in aging. Emphasis is on anthropological and sociological studies, but biological and psychological perspectives are included. Current issues in aging with emphasis on implications for health care are discussed. EPID INTL HLTH

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

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. Contemporary American Society. (3) § F, W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus 3 hours independent study for 3 or 4 units. **Abion**

A review of anthropologically oriented research on basic American values, social organization, and ethnicity. Emphasis is on socioeconomic 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. 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. **C. L. Johnson, Todd**

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

252. Class, Culture & Health Policy. (3) § W. Seminar 3 hours. **M. F. Mitchell**

Combining the perspectives of anthropology and health policy, the course will examine the effect of culturally-linked beliefs and values on utilization of health services and the impact of health policies on medical care for low-income populations in the United States. EPID INTL HLTH

255A-B-C. Intercampus Seminar with UCB. (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. **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 & Med Anthro. (2-4) § Sp. Prerequisite: Training in epidemiology and consent of instructor. Lecture 2 hours plus 3 or 6 hours independent study for 3 or 4 units. **F. Dunn**

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

263. Biol Perspec on Growth & Devel. (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. (2-3) § F, W or Sp. Prerequisite: Consent of instructor. Lecture 2 hours, plus research paper for 3 units. **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

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. Cellular Structure & Function. (5-5) § F, W. Prerequisite: Consent of instructor. **Colby**

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 & Function. (4-4) F, W. Lecture 4 hours. **Colby**

Lectures in biochemistry include aspects of cell physiology and cellular ultrastructure, with emphasis in the area of connective and mineralizing tissues. Fundamental knowledge is presented in the context of its applicability to clinical health sciences. Primarily for dental students. BIOCHEM

111. First-Year Special Study. (2) F. Prerequisite: Passing of placement examination and consent of instructor. Lecture 2 hours. **Newbrun, Beirne, Bhatnagar**

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

120A-B. Cellular Structure & Function. (4½-4½) F, W. Prerequisite: Consent of instructor for first-year students. Lecture 4 hours. Conference 2 hours. Intended primarily for Pharmacy students. **Watson, Benson**

Lectures and conferences in biochemistry include aspects of cell physiology and cellular ultrastructure, with some emphasis in the area of drug metabolism. Two-hour clinical correlation sessions are designed to offer

biochemistry in a clinical or practical context. BIOCHEM

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

Research in biochemistry. BIOCHEM

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

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

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

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

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

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

200C. Chromosome Structure & Function. (1½) § Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology are recommended. Lecture 3 hours for one-half quarter. **Sedat**

Structure and function of chromosomes in eukaryotes will be discussed in depth, beginning with basic underlying experiments and leading to the most recent proposals for structure. Emphasizes both theoretical and

experimental approaches to this area of cell and molecular biology. BIOCHEM

200D. Protein & Nucleic Acids. (3) § F. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology are recommended. Lecture 3 hours. Offered in alternate years. Offered 1983-84. **Fletcherick and Staff**

A comprehensive course covering the chemistry of proteins, carbohydrates and nucleic acids. Structure, sequence determination and chemical modification are emphasized. BIOCHEM

200E. Enzymology. (3) § F. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry, and an advanced course in biology; or consent of instructor. Lecture 3 hours. Offered in alternate years. Not offered 1983-84. **Santi, Kenyon**

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

201A-B. Biological Regulatory Mechanisms. (3, 1½) § W, Sp. Prerequisite: Calculus, physical chemistry, organic chemistry, introductory biochemistry and an advanced course in biology. Lecture 3 hours. **K. Yamamoto, Guthrie, O'Farrell**

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

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

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

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

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

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

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

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

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

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

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

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

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

240. Macromolecule Struc & Dynamics. (2) § W. Prerequisite: Consent of instructor.

Lecture 2 hours. Offered in alternate years. Not offered 1983-84. **A. R. Cooke, Stroud**

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

242. Structural Analysis. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Offered in alternate years. Offered 1983-84. **Stroud**

Principles of X-ray crystallography applicable to protein structure analysis will be presented in a course oriented toward research level understanding of the field. Course will involve group participation and some experimental work. BIOCHEM

245. Cell & Developmental Biology. (3) § W. Prerequisite: Calculus, physical chemistry, organic chemistry, and an advanced course in biology are recommended. Lecture 3 hours. **R. Kelly, Alberts, Kirschner**

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

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

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

170B-C. Biomaterials Science. (2-2) W, Sp. Seminar 2 hours. Open to Dental residents, postdoctoral and postgraduate students only. **Jendresen**

Course covers biomaterials science as applied to clinical restorative dentistry with emphasis on restorative material selection

and use, based on acceptable physical and biological properties. Current research and new restorative materials will be discussed. RESTOR DENT

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

181. Cosmetic Dentistry. (1) F, W. Prerequisite: Consent of instructor. Lecture 1 hour. **Lacy**

Review of a variety of materials and techniques related to the delivery of cosmetic or esthetic dentistry. New materials and procedures in both operative dentistry and fixed prosthodontics are emphasized. RESTOR DENT

199. Laboratory Project. (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

Biomathematics¹⁴

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

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

netics, tracer studies, population dynamics. BIOCHEM

189. Diff Equations for Biomed Use. (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

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

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

191. Laplace & 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. Adv Calculus & Diff Equations. (3-3-3) § F, W, Sp. Lecture 3 hours. **Martinez**

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

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

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

Biophysics¹⁵

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

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

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

Biostatistics

181. Intro to Statistical Concepts. (3) § F, W, Sp. Lecture 3 hours. **Staff**

An introductory course for those interested in learning statistics to evaluate better the literature in their fields. A working knowledge of algebra will be assumed. Topics include

¹⁴See Biochemistry 202 and 203.

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

descriptive statistics, estimation, tests of hypotheses and measures of association. EPID INTL HLTH

183. Intro to Statistical Analysis. (4) § F, W, Sp. Lecture 4 hours. **J. Hoffman and Staff**

An introduction to probability and statistical inference including analysis of variance, simple linear regression and analysis of discrete data. Course is intended for those who may need to use statistics in their work or who plan further work in statistics. EPID INTL HLTH

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

Biostatistics 185A and 185B are conceptually oriented introduction and preparation courses for more advanced work. Topics covered include roles of statistical ideas and methods, descriptive statistics, probability, random variables, sampling, estimation, confidence intervals, and hypothesis testing, primarily concerning population means. EPID INTL HLTH

185B. Probability & Statistics. (4) W. Lecture 4 hours. **Staff**

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

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

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

201. Qual & Categorical Data Methods. (3) § F Prerequisite: Biostatistics 183 or equivalent. Lecture 3 hours. **G. Fein**

sectional study design and analysis, prospective samples and misclassification errors. EPID INTL HLTH

210A. Regression Analysis. (3-4) § W. Prerequisite: Biostatistics 183 or equivalent. Lecture 3 hours. Lab optional 0-3 hours. **Hargreaves, Heilbron**

Course covers the uses of multivariable regression techniques, focusing on the choice of technique and interpretation of results rather than on mathematical development of the methods. Design of experiments is stressed with appropriate emphasis on power analysis. EPID INTL HLTH

210B. Regression Analysis. (3-4) § Sp. Lecture 3 hours. Lab 0 or 2 hours. **Hargreaves, Heilbron**

Continuation of the material and approach of Biostatistics 210A. Topics include analysis of variance and co-variance (primarily from a regression standpoint), repeated measures analysis of variance, and regression analysis of a dichotomous response variable. EPID INTL HLTH

212. Variance in Experimental Design. (3) § Sp. Prerequisite: Biostatistics 183. Lecture 3 hours. **Bostrom, G. Fein**

Presentation of analysis of variance methods for experimental data. Topics include factorial designs, randomized blocks and repeated measures designs. EPID INTL HLTH

213. Multivariate Methods. (3) § F. Prerequisite: Biostatistics 183 or equivalent. Lecture 3 hours. **Bostrom**

Course covers multivariate methods from several areas such as multivariate analysis of variance, factors analysis and classification methods. Emphasis will be on application and interpretation of these procedures with real data. EPID INTL HLTH

214. Nonparametric Methods. (3) § W. Prerequisite: Biostatistics 183 or equivalent. Lecture 3 hours. **Heilbron**

This intermediate level course considers the more common and useful distribution free methods from an applications standpoint. Topics include contingency tables, rank tests and tests based on the binomial distribution. EPID INTL HLTH

220. Selected Topics. (2 or 3) § F, W, Sp. Lecture 2 or 3 hours. **Staff**

Course will cover topics such as statistical methods for failure time data; statistical epidemiology; logic and practice of scientific inquiry. EPID INTL HLTH

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

270. Nonlinear Regression. (2) § Sp. Prerequisite: Medical Information Science 230A or equivalent. Lecture 2 hours. **Beal**

Nonlinear regression models. Maximum likelihood, least squares and robust parameter estimation methods. Numerical iterative techniques for implementation of these methods. Confidence sets and hypothesis tests. Examination of statistical asymptotic theory. Practice with analyzing actual data with computer programs. EPID INTL HLTH

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

Reading and conferences for qualified students under the direction of a member of the staff. EPID INTL HLTH

Chemistry

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

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. **Ketcham**

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) F, 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**

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. **T. James**

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. **Burlingame**

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

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

Selected topics at an introductory level, which vary from year to year. Past topics in-

cluded structure of nucleic acid and proteins, quantum chemistry, and spectroscopy. PHARM CHEM

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

Chemical thermodynamics. PHARM CHEM

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

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

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

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

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

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

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

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

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 3 hours. **Ortiz de Montellano**

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

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

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

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

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

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

201A-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. Lecture 2 hours. **Staff**

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 Seminar. (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. Laboratory Computer Applications. (2) § F, 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) § F, W, 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. (2) § F, W, Sp. Prerequisite: Consent of instructor. **Nussenbaum**

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: F, W, Sp. B: 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. LAB MED

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

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) § 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. (2) F. Conference and field observation 3-4 hours. **R. Levin**

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

130. Therapeutics. (6) F. Prerequisite: Successful completion of all required first- and second-year courses or consent of instructor. Lecture 5 hours. Conference 2 hours. **Guglielmo, Kudzia**

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

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

Continuation of Clinical Pharmacy 130. CL PHARM

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

Continuation of Clinical Pharmacy 131. CL PHARM

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

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

134. 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. **Kishi, Herfindal**

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

135A. Drug Information Orientation. (1½) F, W, Sp. Prerequisite: Third-year standing. Concurrent or subsequent enrollment in Clinical Pharmacy 130, 131 or 132. **L. Hart, L. J. Davis**

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

135B. Drug Information Orientation. (½) F, W, Sp. Prerequisite: Clinical Pharmacy 135A. **L. Hart, L. J. Davis**

Continuation of Clinical Pharmacy 135A. CL PHARM

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

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

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

Continuation of Clinical Pharmacy 148A. CL PHARM

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

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

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

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

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

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

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

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

Continuation of Clinical Pharmacy 148.02A. CL PHARM

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

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

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

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

149.02A. Amb Externship/Clerkship-UCI & MHLB. (6½) F, W, Sp. Prerequisite: Successful completion of all first-, second-, and third-year courses and Clinical Pharmacy 130 series comprehensive examination. **Shimomura and Staff**

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

149.02B. Amb Externshp/Clkshp—UCI & MHLB. (6½) F, W, Sp. Prerequisite: Clinical Pharmacy 149.02A. **Shimomura and Staff**

Continuation of Clinical Pharmacy 149.02A. CL PHARM

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

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

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

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

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

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

155.50. Oncology Seminar. (2) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. Seminar 2 hours. **Ignoffo**

Discussion in detail of topics in oncology that focus upon the pharmacologic manage-

ment of various neoplastic disorders or cancer-induced problems. CL PHARM

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

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

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

Group studies of selected topics in clinical pharmacy. CL PHARM

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

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

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

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

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

Students review Infectious Disease Service therapeutic consultations and evaluate pa-

tients' response to recommended therapy by following chart records and by direct interviews. Students attend conferences, seminars and rounds. Special projects assigned. CL PHARM

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

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

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

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

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

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

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

Students observe, interview, evaluate drug therapy, interact with patients in acute phases of psychiatric disorders, accompany unit

physicians to court, attend interdisciplinary team conferences, and make specific comments on drug therapy. CL PHARM

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

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

175.28. Inpatient Medicine—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

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

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

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

actions, and participation in conferences and seminars. Special projects assigned. CL PHARM

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

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

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

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

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

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

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

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

175.42. Ob-Gyn—UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. **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. Prepare detailed consultations regarding drug therapy where appropriate. CL PHARM

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

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

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

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

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

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

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

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

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

A. L. Leeds

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

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

M. Kimble, Lofholm

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

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

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

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

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

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

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

M. Kimble, Inaba

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

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

M. Kimble, Scheidtmann, Arauzo, Letcher

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

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

M. Kimble, K. Eng, L. Eng, Leung

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

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

M. Kimble, Nico, Rhoades

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

175.80. IV Additives & Fluid Therapy-UC. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor.

McSweeney

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

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

M. Kimble, Kikugawa

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

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

M. Kimble, Woo, J. Gee

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

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

M. Kimble, Woo, J. Gee

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

175.88. Unit Dose Systems-SMC. (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 are 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

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

L. Hart

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

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

M. Kimble, W. H. Lee and Staff

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

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

M. Kimble, Hirschman, Forni

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

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

D. Adler and Staff

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

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

D. Adler and Staff

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

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

D. Adler and Staff

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

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

D. Adler and Staff

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

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

D. Adler and Staff

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

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

Weibert and Staff

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

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

D. Adler, P. Lee

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

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

Weibert and Staff

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

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

D. Adler and Staff

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

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

Manoguerra and Staff

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

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

D. Adler and Staff

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

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

P. Anderson

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

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

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

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

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

185.23. Medicine-SRM. (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 with specific information to health team members, provide drug and health information to patients, document clinical services: CL PHARM

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

Students attend rounds with the Infectious Disease Service, evaluate antibiotics selection and patients' response to therapy, serve as

drug consultants to medical staff on the service. A special project relating to some aspect of infectious disease and its therapy will be completed. CL PHARM

185.27. Burn Unit-STF. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. **M. Kimble, Damato, Jansen**

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

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

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

185.32. Intensive Care-VAM. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A and/or consent of instructor. **M. Kimble, Woo, J. Gee**

Attendance and participation in clinical activities in the Intensive Care Unit. Activities may include rounds with pulmonary, cardiology or surgical ICU teams, monitoring drug therapy, pharmacokinetic monitoring of selected medicines, and working with various health care professionals regarding medicine use and misuses. CL PHARM

185.34. Psychopharmacology-AS. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. **M. Kimble, Hudgins, Raleigh, R. O'Brien**

Students participate in the clinical activities of the Pharmacy Department. A special project

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

185.35. Inpatient Psychiatry-VAM. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. Consent of instructor. **M. Kimble, Woo, J. Gee**

Students participate in the activities of the Inpatient Psychiatry Service. Upon completion, students shall demonstrate the ability to function as a clinical pharmacist in an inpatient psychiatric setting. CL PHARM

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

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

185.39. Oncology-Nutrition Support-STF. (4-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B and/or consent of instructor. **M. Kimble, Honda**

Students work on the Oncology Unit monitoring patients on chemotherapy, nutrition support, pain control and antibiotic therapy. Students will gain in-depth knowledge of the role of the clinical pharmacist in a private hospital Oncology Unit. CL PHARM

185.62. Asian Women's Health Center. (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor. **M. Kimble, Stang, Isaacs**

Participation in activities of the family planning clinic, including patient screening, education, evaluation, and dispensing of contraceptive methods and treatment therapies. Student will prepare a minimum of two patient education handouts. CL PHARM

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

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

185.69. Skilled Nursing/Pharmacare Serv. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 148A or 149A and 149B. **M. Kimble, J. Kaufman, Caron**

Students participate in 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

185.73. SNF & Comptr Science-Caron Corp. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. **M. Kimble, Caron**

Students work under direct supervision of consultant pharmacist in skilled nursing facility patient care. Experience in computer science fundamentals relating to data screening, processing, and computer programming is also included. CL PHARM

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

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

185.94. Drug Information-S. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy 130, 131 and 132. Consent of instructor. **M. Kimble, Tatro**

Students participate in the activities of the Drug Information Service including answering drug related questions, writing a newsletter, and drug review. Students work under supervision of the director for drug information. CL PHARM

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

187.09. Fairview State Hospital Ckshp. (1-8) F, W, Sp. Prerequisite: Clinical Pharmacy

130, 131 and 132. Consent of instructor.

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

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

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

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

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

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

Students will be provided the opportunity to develop the skills required to work in a drug information service, which includes organization and retrieval of drug information, drug literature evaluation, and effective verbal and written communication. CL PHARM

187.81. IV Additives—UCI. (1-8) F, W, Sp. Prerequisite: Fourth-year standing and consent of instructor. **Shimomura, Ming**

Students participate in the activities of an intravenous additive service in a large uni-

versity teaching hospital. Students will learn about aseptic technique, compatibility and stability of drugs in intravenous solution, total parenteral nutrition, prefilled syringe programs, home hyperalimentation and piggy-backs. CL PHARM

187.82. Drug Information—UCLA. (1-8) W, Sp. Prerequisite: Fourth-year standing and consent of instructor. **Shimomura, Vrabel**

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

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

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

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

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

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

ministrative and teaching responsibilities. CL PHARM

451. Drug Information. (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. Administration. (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. 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

Community Dentistry

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

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

Craniofacial Anomalies

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

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

178B-C. Abnormal Facial Growth. (2-2) W, Sp. Seminar 2 hours. **Vargervik**

Diagnosis of orofacial malformations. Emphasis is on the interrelationship of morphology and physiology. GR DEVEL

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

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

188. Neuromuscular Function. (2) F. Prerequisite: Physiology. Lecture 2 hours. **Chierici, A. Miller**

Course emphasizes the importance of sensorimotor pathways to mandibular position and tongue posture. The use of facial and mandibular muscles is taught as related to posture, deglutition and mastication. The neuromuscular effects and adaptation to oral respiration are emphasized. GR DEVEL

Dental Auxiliary Utilization

120. Use of Dental Auxiliaries. (½) Sp. Prerequisite: General Dentistry 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. Employing Auxiliaries. (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

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

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-B. Community Dental Health Educ. (0-2, 0-2) F, W. Prerequisite: Dental Health Education 150A. Lecture 2 hours. **Francisco**

Exploration of alternative, non-clinical roles for dental hygienists while introducing program planning, implementation, evaluation, and financing theories. Students are given the opportunity to develop program planning and evaluation skills with selected community dental health field project. PERIODONT

161B. Curriculum Theory & Design. (2) W. Prerequisite: Dental Health Education 150A-B. Lecture 2 hours. **M. Walsh**

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

161C. Curric Theory & Design Field St. (1) Sp. Prerequisite: Dental Health Education 150A-B and 161B. Lecture 9 hours. Lab 12 hours. **M. Walsh**

Field work experience utilizing techniques learned in Dental Health Education 161B. PERIODONT

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

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

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

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

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

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

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

151. Orientation to Dentistry. (1) F, W, Sp. Lecture 1 hour. **Hannebrink**

Introduction to dental specialties and clinical dental procedures. Topics to be covered include oral diagnosis, operative dentistry,

pedodontics, endodontics, and myofunctional therapy. PERIODONT

152. Introduction to Research. (2) Sp. Lecture 2 hours. **Scarff**

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

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

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

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

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

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

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

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

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

include practice management and career planning. PERIODONT

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

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

162A-B. Research Design. (0-4, 0-4) F, W. Prerequisite: Dental Hygiene 152. Lecture 2-4 hours. **Poupard**

Continuation of Dental Hygiene 152. Design and implementation of a research project and preparation of abstracts for table clinic presentation. PERIODONT

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

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. Independent 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. Mobile Clinic. (0-3) SS. Clinic variable. **R. Miller**

Clinical experience in mobile dental clinics. PERIODONT

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

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

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

Dermatology

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

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

140.01. Advanced Dermatology Clerkship. (½ 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. Off-Campus Clerkship. (½ 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. DERMATOL

150.01. Dermatology Research. (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 & Research Clerkship. (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. (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. Staff Conference. (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. **Sagebiel**

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

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

Seminar covers recent literature in dermatology. Included is assigned reading with

required reports which are evaluated by members of the faculty. DERMATOL

403. Specialty Seminar. (2) F, W, Sp. Seminar 2 hours. **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. Clinical Evaluation. (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. (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. Related Science Seminar. (10) 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. Cutaneous Microbiology. (2) Su, F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Aly**

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

450. Clinical Care Clerkship. (10) Su, F, W, Sp. **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 Care Clerkship. (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. Off-Campus Clerkship. (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. Economic Management in Dentistry. (1-1) F, W. Lecture 1 hour. **Winters**

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

Endocrinology¹⁶

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

R. Weiner

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

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

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

Ganong

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

201. Hormone Structure & Function. (3) § Sp. Prerequisite: Basic course in biochemistry recommended. Consent of instructor. Lecture 3 hours. **Papkoff, Ramachandran, Bewley**

Examination of 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. PHYSIOLOGY

202. Mechanisms of Hormone Action. (3) § F. Prerequisite: Physiology 101 and/or Human Biology 200A and 200B, or Biochem-

¹⁶Courses in Endocrinology are offered through various departments. For further information regarding any of them, contact instructor in charge or Dr. William F. Ganong, Chairperson, Department of Physiology, Interdisciplinary Program in Endocrinology.

istry 100A-B, or consent of instructor. Lecture 2 hours plus independent study.

R. H. Roth, Nissenson

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. PHYSIOLOGY

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

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

220. Topics in Experimental Endo. (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. PHYSIOLOGY

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

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

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

Endodontics

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

and 125A-B-C. Clinic variable. **N. Nguyen and Staff**

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

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

N. 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 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

182. Literature Review. (1) F, W, Sp. Lecture 1 hour. **Yip**

A wide spectrum of selected topics related to endodontics will be reviewed. Research findings leading to modern concepts in endodontic treatment will be emphasized. Students are encouraged to participate in research projects and in table clinics at dental meetings. RESTOR DENT

189.02. Advanced Clinical Practice. (0-4) Sp. Clinic variable. **Sapone**

Advanced instruction in the field of clinical endodontics. RESTOR DENT

189.03. Expanded Clinical Practice. (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. **N. 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. Undergrad Clinical Clerkship. (0-16½) F, W, Sp. Prerequisite: Fourth-year standing and completion of majority of graduation requirements. Lecture 5½ hours for five weeks. Clinic. **N. 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-periodontic-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. **Heyneman**

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

Ernster, Sacks, Petrakis

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

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

R. Goldsmith, Halde

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

140.02B. Off-Campus Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of chairperson of department. **Petrakis and Staff**

Clerkships in clinical epidemiology in off-campus settings. EPID INTL HLTH

140.03. Leprosy. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Gelber**

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

140.04. Refugee Screening Clinic—SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **De Lay**

Diagnosis and treatment of refugees from culturally diverse populations. Clinical experience with variety of tropical diseases and medical problems in family practice associated with these cultures. Attendance at Tropical Medicine-Infectious Disease Clinics at UCSF and participation in discussion of guided readings. EPID INTL HLTH

150.01. Medicine in Developing Countries. (1½ per week) W. Prerequisite: Epidemiology and International Health 100 or

consent of instructor. Not offered 1983-84.

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 & Laboratory Research. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **Staff**

Research under faculty supervision in the United States or abroad. Research may be in public health, clinical or preventive medicine, or basic medical sciences. EPID INTL HLTH

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

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

170.04. Host-Parasite Interactions. (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. Intro to International Health. (2) W. Lecture 2 hours. **F. Dunn and Staff**

Lectures and discussion to survey the history, organizational structure, major activities and topics that comprise the field of international health. EPID INTL HLTH

170.06. Human Health Geography. (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.

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

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

170.08. International Health Policy. (2) Sp. Lecture 2 hours. **M. F. Mitchell, P. Lee, F. Dunn**

Lectures and discussions to examine topics and issues in international health at the level of policy. EPID INTL HLTH

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

R. Goldsmith, Frierson and Staff

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

180.04. Research Design. (2-3) § F. Prerequisite: Consent of instructor. Seminar 2

hours. Optional term paper for 3 units.

Hulley

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

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

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

180.07. Environmentally Induced Disease. (1) W. Lecture 1 hour. **Tarcher**

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

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

A. R. Moss

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

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

Lectures, case histories, and films empha-

sizing 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) § W. Lecture 3 hours. **L. Levin**

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

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

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

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

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

Exfoliative Cytology

401A-B-C-D. Clinical Diagnostic 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

Family and Community Medicine

110. FCM Core Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Completion of 20

weeks of clinical clerkship including Medicine 110. **Werdegar, Rodnick, D. Mitchell**

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

140.01A-B-C-D. Advanced Family Practice. (1½ per week) A, B, C, and D are offered in all of the following quarters: Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. **Werdegar, Comelli, W. Shore, Dervin**

A = *VMC* in Fresno; B = *SFGH*; C = *CHS* in Santa Rosa; D = other sites. Comprehensive inpatient and outpatient experience in family practice. Students assume sub-intern responsibility for patient care. Community assignments may be individually arranged. FAM CM MED

140.02. Community Health Programs. (1½ per week) Su, F, W, Sp. Prerequisite: Determined by student's clinical experience. Consent of instructor. **Barbaccia and Staff**

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

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

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

140.05A-B-C-D. Social Medicine. (1½ per week) F, W, Sp, Su. Prerequisite: Consent of

instructor. Course may be taken three consecutive quarters in fulfillment of pathway requirements, or one quarter on a selective basis.

Barbaccia

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

140.06A-B-C. Rehabilitation Medicine. (1½ per week) A, B, and C are offered in all of the following quarters: Su, F, W, Sp. Prerequisite: Consent of instructor.

**L. Crain,
H. Davis**

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

140.07. Adv Family Prac Preceptorship. (1½ per week) Su, F, W, Sp. Prerequisite: Advanced medical school standing and consent of instructor.

H. Davis

Students may select from several sites such as urban practice in San Francisco and Berkeley, or rural practice in Healdsburg, Hoopa and Hughson. Students participate in the care of patients and their families at the physician's practice, local hospital and emergency room. FAM CM MED

140.10. Scientific Basis of Family Prac. (3) Sp. Prerequisite: Family and Community Medicine 110. Lecture 10 hours. Seminar 10 hours. Reading and library research 20 hours. Course is given over two weeks.

**Rodnick,
Ransom, Slater**

A two-week lecture-discussion-library research course for senior medical students interested in Family Medicine careers. Course will cover researchable questions pertinent to ambulatory care. Lectures will be combined with student presentations of literature reviews. FAM CM MED

140.30A-B-C. Family Practice Clerkship. (1½ per week) A, B, and C are offered in all of the following quarters: Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

**Patinkin,
J. Morrison**

A = NAT in Salinas; B = SHH at Fort Ord; C = other sites. Course strengthens students' clinical skills and exposes them to hospitals with family practice residency programs. Provides opportunity to participate in health care in rural and/or underserved areas. FAM CM MED

140.40. Adv Inpatient Fam Med Clkshp. (1½ per week) Su, F, W, Sp. Prerequisite: Senior medicine clerkship.

R. Goldschmidt, M. Johnson

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

140.50A-B-C-D. Com Clkshp-San Joaquin Valley. (1½ per week) A, B, C, and D are offered in all of the following quarters: Su, F, W, Sp. Prerequisite: Consent of instructor.

Corbus

A = St. Agnes' Hospital; B = Visalia Hospital; C = Fresno Community Hospital; D = other sites. Family practice clerkships in community practices in Valley communities. Students are introduced to the varied medical and surgical problems commonly found. Provides opportunity to assess health resources in a semi-rural area of California. FAM CM MED

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

Knopp

Students receive practical training in emergency medicine in emergency prehos-

pital care, and also in the care of the critically ill and injured patient in the emergency room. Daily emergency medicine case conferences and weekly conferences augment clinical experience. FAM CM MED

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

Werdegar, Barbaccia and Staff

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

160.01. Community Medicine Field Work. (1½-3) Su, F, W, Sp. Prerequisite: Medical student standing. Consent of instructor. Field work 4-8 hours.

Barbaccia

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

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

R. Goldschmidt, J. Mandel

Course will provide students the opportunity to follow a small number of patients and families over the entire year during their non-scheduled time in coordination with the instructor. Continuing the experience for four years is encouraged. FAM CM MED

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

H. Davis

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

160.04. Sports Med for Non-Orthopedists. (2-3) F. Prerequisite: Consent of instructor.

Lecture 2 hours. Clinic optional 4 hours.

Benner

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

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

D. Sanchez, D. Fink

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

160.07A-B. The Family: Health & Care. (2-2) F, W. Seminar 2 hours. Field work 4 hours.

**Ransom, R. Goldschmidt,
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. FAM CM MED

160.08. Introduction to Family Therapy. (1) W. Seminar 1 hour.

Ransom, H. Davis

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 video-taped role playing exercises aimed at practicing basic techniques. FAM CM MED

160.09. Clinical Approach to the Family. (2) W. Prerequisite: Second-year standing in School of Medicine.

H. Davis, Ransom

Students perform family interviews and genograms, and learn to assess individuals

172. Legal Medicine. (2) § F, W. Lecture 2 hours.

Tennenhouse

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

173. Family Practice Seminar. (1) W. Seminar 1 hour.

J. Cook

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

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

**Babitz, Rodnick,
W. Shore**

An exploration of the comprehensive role of the family physician in providing longitudinal health care. Students will learn to recognize priorities in patient care, with an emphasis on the patient as a whole person. FAM CM MED

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

Guttentag

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

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

Guttentag

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

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

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

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

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

190. Family Counseling & Psychother. (1) F, W. Seminar 1 hour.**Ransom,****H. Davis**

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. FAM CM MED

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

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

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

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

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

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

Fixed Prosthodontics**109. Clinical Fixed Prosthodontics.** (0-8) F, W, Sp. Prerequisite: Third-year standing in restorative dentistry. Satisfactory completion of all first- and second-year restorative courses. Clinic variable.**Tueller**

A two-year course offering instruction in all phases of fixed prosthodontics. To be taken concurrently with Fixed Prosthodontics 130A, 130B, 130C in the third year, and with elective options in the fourth year. 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. Selected Topics. (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

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

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

Forensic Pathology and Medicine**170.01. Basic Legal Principles.** (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**109.01. Community Dentistry Rotation.** (0-9) F, W, Sp. Prerequisite: Certification of competency by the various departments in the school. Seminar 3 hours. Clinic 24 hours.**Wycoff, Sinclair, M. Garcia**

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

111. Problems in 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

120. Behavioral Sciences. (1) W. Lecture 1 hour.**J. Fine**

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

Genetics¹⁷**200A. Principles of Genetics.** (3) § F. Lecture 3 hours.**Kornberg, Herskowitz**

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

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

A laboratory rotation course to familiarize first-year students with various approaches to research. Students are required to rotate through three different laboratories in at least

¹⁷See also Biochemistry course offerings.

two subject areas, and give an open seminar at the end of each quarter. BIOCHEM

220. Current Topics. (½) § F, W, Sp. Prerequisite: Consent of graduate adviser in genetics. Seminar.**Herskowitz and Staff**

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

250. Research. (1-8) § F, W, Sp. Staff BIOCHEM**Health Sciences Education****200. Intro to Teaching Health Science.** (2) § F Prerequisite: Consent of instructor. Lecture 2 hours.**Lem**

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. PHARMACY

220A-B. Selected Topics. (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. Teaching Allied Health. (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 con-

sidered. Individual professional problems are analyzed. MEDICINE

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

A seminar to review and develop objective techniques in assessing the clinical performance and competence of students and practitioners. Techniques will be developed and validated for a number of clinical disciplines. MEDICINE

History**180. History of Dentistry.** (1) W. Lecture 1 hour.**B. Hartman**

A lecture series on the evolution of dentistry from the dawn of civilization to modern times. Emphasis is placed on the changing concept of mere pain relief to the current science involving total restoration of the mouth, control and prevention of oral diseases. Inventiveness of the dentist, his role in the discovery and application of anesthesia, with constant involvement in community health problems of people over the ages, are stressed. GEN DENT

History of Health Sciences**150. History of Pharmacy.** (3) F. Lecture 3 hours.**Sadec**

Emphasis is on the historical development of pharmacy, its relationship to other health professions, and the personalities who significantly contributed to the advancement of health care. HIST HL SC

170.02. Medical History & 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 or 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. Intro to History of Medicine. (1-5) § F, W or Sp. Lecture 1 hour. Independent study variable. **Todes**

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

172. Scientific Work of Pavlov. (2-3) F. Seminar 2-3 hours. **Todes**

Examination of Pavlov's scientific work, particularly his investigations of digestion and conditioned reflexes, and the impact upon world medical science. The roots of Pavlov's work in social, cultural, philosophical, and scientific currents in the nineteenth century will also be covered. HIST HL SC

180.01. History of Soviet Medicine. (2-4) § Sp. Seminar 2-4 hours. **Todes**

Examination of medicine in the Tsarist period, with emphasis on the impact of the revolution and socialist construction upon public health, the medical care delivery system, the professional medical community and medical science. HIST HL SC

188.08. Health & Human Rights. (2) Sp. Seminar 2 hours. **Brieger, Todes, Jonsen, Jameton**

A study of how fundamental social theories give shape to health care practice. HIST HL SC

195A. Doctors in Fiction. (2) § W. Seminar 2 hours. **Todes, F. Schiller**

Seminar examines the changing image of the physician and the social, professional, philosophical and personal issues involved in medical practice, as reflected in popular literature. Course provides a consumer's view of medicine in different societies and historical periods. HIST HL SC

195B. Doctors in Fiction. (2) § W, Sp. Seminar 2 hours. **Todes, F. Schiller**

Continuation of History of Health Sciences 195A. Seminar examines the changing image of the physician, and the social, professional, philosophical and personal issues involved in medical practice, as reflected in popular literature. HIST HL SC

198. Supervised Study. (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

203. Brain/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. Non-Western Medical Systems. (1-2) § W. Prerequisite: History of Health Sciences 170.06. Lecture 1 hour. **Veith**

Seminars and directed readings on the philosophy of Asian, Indian, and other non-Western systems. HIST HL SC

205.01. Western Medical Attitudes. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-3 hours. **Guttentag**

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

concepts, such as the clinical entity. HIST HL SC

205.02. Western Medical Attitudes. (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. Intro to History of Nursing. (2) § W. 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. Historical Bibliography. (4) § 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. Victorian Age Medicine. (2) § W. 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. 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. (4) § F, W, Sp. Prerequisite: Consent of department. Seminar 4 hours. **Brieger**

This course is an historical methods and research seminar required for all students in History of Health Sciences and open to others interested in learning the methods of historical research. HIST HL SC

250. Research. (1-8) § F, W, Sp. **Staff****251. Ethical Clinical Research.** (1) § W. Seminar 3 hours on four days. **Jonsen**

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. HIST HL SC

252. Ethical Theory. (3) § F. Prerequisite: Graduate standing or consent of instructor. Seminar 3 hours. **Jonsen, Jameton**

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. HIST HL SC

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.** (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. **Nakamura**

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 Development and Aging**201. Fundamental Theories & Methods.** (1-4) § F, W, Sp. Prerequisite: Consent of in-

structor. Seminar 4 hours.

M. A. Lieberman, Pearlin, Rosow, Kiefer

Psychological and sociological theories and methods in the study of the human life cycle. Topics include models of development, life course, adult socialization, age stratification, intergenerational issues, cognition, historical and demographic perspectives, personality, stress, transitions, age comparative coping, and psychopathology. PSYCHIATRY

202. Res Meth in Adult Devel & Aging. (2) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. **M. A. Lieberman, Pearlin, Rosow, Kiefer, Chiriboga**

A three-quarter course covering major methods and techniques of life course and life span research including surveys, field observations, analysis of quantitative and qualitative data, and longitudinal research. PSYCHIATRY

203. Prob Formulation & Res Design. (3) § F, W, Sp. Prerequisite: Consent of instructor. **Rosow**

Students work on their own research interests in terms of problem formulation, research design, and/or operationalization. Emphasis dependent upon individual student needs. PSYCHIATRY

204. Personal Development. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Kiefer**

Representative works from behavioral science literature and world poetry and prose are brought together in the study of personality development in adult life. Compares insights from the two fields on how the developing person copes with social, historical, and psychological challenges. PSYCHIATRY

205. Data Analysis. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **Rosow**

Students either provide their own or use accessible data from ongoing research projects. Emphasis is on training in data organization, analysis, and research report writing. PSYCHIATRY

206A-B-C. Advanced Seminar on Stress. (2-2-2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Pearlin, M. A. Lieberman, Chiriboga**

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

207. Methods of Survey Research. (3) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours, plus field work. **Pearlin**

Course covers the major tasks of survey research. Topics such as conceptual specification, the development of indicators and measures, the construction of questionnaires, sampling, field testing, interviewing, and analysis are covered. PSYCHIATRY

208. 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

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. Social Science Philosophy. (2) § Sp. Prerequisite: Consent of instructor. Seminar 2 hours. **Kiefer**

Exploration of the philosophies of knowledge which underlie medicine, natural science and social science. Course offers an approach to behavioral problems in health care which reconciles medical and social science epistemologies. For both health professional and social science students. 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

221. Life Stress & Adaptation. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours. **Chiriboga**

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 physiological, physical, social at various life stages from adolescence to old age. PSYCHIATRY

222. Sources & Mediators of Stress. (2) § W. Prerequisite: Consent of instructor. Seminar 2 hours. Enrollment limited. **Pearlin, M. A. Lieberman, Chiriboga, F. Cohen, M. Horowitz, Lazarus**

Course presents current theories and research concerned with sources of stress and its mediation by coping and social supports. Instructors draw on their own work for lectures. The faculty seminar meets alternate weeks; students meet with Professor Pearlman in intervening weeks. PSYCHIATRY

227. Biological Aspects of Aging. (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. 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

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**

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

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

Human Sexuality

159. Human Sexuality. (1½) Sp. Lecture 1½ hours. Offered in alternate years. Not offered 1983-84. **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 & Devel. (3) F. Lecture 3 hours. **Charlton, Parer**

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 RS

140.22. Responsibilities of Med Prac. (1½ per week) F, W, Sp. 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. **Gottfried**

Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radioisotopes are held in the clinical laboratories at UC and SFGH. LAB MED

140.03. 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

140.05. Clinical Pathology-VMC. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and consent of instructor. **M. Fisher, Sobenes**

Clerkship in laboratory medicine including indications for tests, problems of collection and performance, interpretation of data to assist clinicians in rendering diagnoses and following therapy. Topics include clinical chemistry, radioisotopic pathology, hematology, immunology and serology, blood banking, microbiology, mycology, parasitology. LAB MED

140.06. Laboratory Medicine in Fresno. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Beland, L. Mann**

Utilization of different laboratory settings, organizations, and approaches by pathologists in hospitals throughout the Fresno community. Included is coverage of traditional areas of clinical pathology in addition to such specialized areas as cytogenetics and therapeutic drug monitoring. LAB MED

150.01. Laboratory Medicine-UC. (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. Radionuclides. (2) Su, F, W, Sp. Prerequisite: One year of medical school. Lecture 1 hour. Clinic 4 hours. **Pollycove**

Basic laboratory course in nuclear medicine. Clinical participation in the diagnosis of patients receiving radionuclides in the outpatient clinics and in the wards. LAB MED

160.02. Sexually Transmitted Diseases. (1) W. Prerequisite: One year of medical school. Lecture 1 hour. **G. Brooks**

Course covers biological and clinical aspects of the syndromes and agents of sexually transmitted diseases, including herpes, chlamydia, gonorrhea, syphilis, salpingitis, vagin-

itis, and others. This is an elective course for second-year medical students. LAB MED

170.01. Clinical Pathology-SFGH. (2) Su, F, W, Sp. **Gottfried**

Laboratory sessions and seminars on aspects of clinical chemistry, hematology, microbiology, blood banking, and radioisotopes are held in the clinical laboratories at UC and SFGH. LAB MED

400. Clinical Pathology Seminar. (2) Su, F, W, Sp. **Marton, Gottfried, Nicoll**

Residents prepare summaries of selected clinical cases which present problems in correlation of clinical and laboratory data. Residents and faculty discuss relevant literature with special reference to technical aspects of laboratory procedures and interpretation of results. LAB MED

401. Special Clinical Pathology Sem. (4) Su, F, W, Sp. **Marton, Gottfried, Nicoll**

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. (1-10) Su, F, W, Sp. **Marton, Gottfried, Nicoll**

Research programs are arranged with appropriate faculty members on an individual basis. LAB MED

403. Lab Problem Interpretation. (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 Principles. (10) Su, F, W, Sp. **Marton, Gottfried, Nicoll**

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 Theory. (5-10) Su, F, W, Sp. **Marion, Gottfried, Nicoll**

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 and Biological Illustration

200A-B-C. Introduction to Graduate Study. (2-2-2) § F, W, Sp. Lecture 2 hours. Three-quarter course. **Wakerlin, Beindorf**

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

201A-B-C. Illustration Theory. (3-6, 3-6, 3-6) § F, W, Sp. Lecture 2 hours. Lab 3 hours. **Wakerlin**

Theoretical and practical considerations in illustration design for publication, slides and motion media; introduction to surgical illustration such as procedures, roles, observation; design technology and introduction to graphic arts and printing technologies; introduction to biological illustration; statistical graphics. MED ILLUS

204A-B-C. Advanced Illustration. (3-6, 3-6, 3-6) § F, W, Sp. Prerequisite: Medical and Biological Illustration 201A-B-C. **Wakerlin, Dohrmann**

Theory and practice in visual information design. Surgical illustration for publication and for projected media; publication design, layout, typography, paste-up and print technology. MED ILLUS

207. Specialty Illus: Ophthalmologic. (5) § F, W, Sp. Lecture 1 hour. Lab 6 hours. **Wakerlin, Beindorf, B. Morris, Dohrmann**

Review of anatomy and observation of the ear and eye through otoscope, ophthalmoscope and slit lamp. Ophthalmological illustration, endoscopic drawing, finished illustrations of a retinal field, slit lamp view and a microsurgical procedure. MED ILLUS

210. Teaching Styles & Strategies. (2) § F Prerequisite: Consent of instructor. Lecture and lab 40 hours given as one week of workshops. **Wakerlin, Beindorf**

Introduction for prospective teaching assistants to instructional techniques and strategies, learning-teaching, organizing study plans, presentation of information, student-teacher interactions, evaluation of learning and teaching, theories of learning and communication, planning audiovisual support materials. MED ILLUS

220. Communications Seminar. (3) § F, W, Sp. Seminar 3 hours. Not offered every year. **Beindorf**

Ongoing seminar periodically throughout the program. Analyses of productions in all media. Readings and discussion of instructional design, communication and learning theory, and methods of evaluation. Participation by guest lecturers. MED ILLUS

230A-B-C. Intro to Communication Media. (3-6, 3-6, 3-6) § F, W, Sp. Lecture 1 hour. Lab 6 hours. **Beindorf**

Survey of media production technology and formats. Still photography methods; black and white and color. Theory of media production in film, television and slide-tape aug-

mented by consideration of techniques in storyboarding, scriptwriting, sound and picture editing and animation. MED ILLUS

231. Advanced Media I. (3-6) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 6 hours. **Beindorf**

Theory of motion media and practice in film and electronic camera techniques, editing, sound production and mixing, and project management. MED ILLUS

232. Advanced Media II. (3-6) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 6 hours. **Beindorf**

Theory of production design. Roles of production personnel and task definition. Practice in preproduction plan of actual production to be selected for later production in slide-tape, film and television. Production subject to faculty approval and identification of funding. MED ILLUS

233A. Advanced Media III. (3-6) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 9 hours. **Beindorf**

Theory and techniques of motion picture animation. Design and production of short full animation sequence with sound. Longer animated segment may be designed for completion in Medical and Biological Illustration 233B with consent of instructor. MED ILLUS

233B. Advanced Film Animation. (3-6) § F, W, Sp. Prerequisite: Medical and Biological Illustration 233A and consent of instructor. Lecture 2 hours. Lab 9 hours. **Beindorf**

Elective continuation of Medical and Biological Illustration 233A, in motion picture film animation. MED ILLUS

298. Thesis. (0) § F, W, Sp. Prerequisite: 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

421. Motion Media. (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 Publication. (4) F, W, Sp. Prerequisite: Medical and Biological Illustration 201A-B-C and consent of instructor. Lecture 2 hours. Lab 6 hours. **Wakerlin**

Brochure design and production; photography in graphic design; layout; copy fitting; camera-ready mechanicals; typography; printing; photoengraving; specifications for printing; paper stocks, inks, etc. MED ILLUS

431A. Project I. (5) F, W, Sp. Prerequisite: Medical and Biological Illustration 201A-B-C and 230A-B-C. Lecture 2 hours. Lab 9 hours. **Staff**

Students work on an actual instructional unit in medium of their choice determined by teaching needs, and developed through instructional design concepts, storyboard, script, production planning and budget. MED ILLUS

431B. Project II. (5) F, W, Sp. Prerequisite: Medical and Biological Illustration 431A and consent of instructor. Lecture 2 hours. Lab 9 hours. **Staff**

Continuation of project production begun in Medical and Biological Illustration 431A. MED ILLUS

431C. Project III. (5) F, W, Sp. Prerequisite: Medical and Biological Illustration 431A and 431B and consent of instructor. Lecture 2 hours. Lab 9 hours. **Staff**

Completion of project. MED ILLUS

435. Special Study. (3-4) F, W, or Sp. Prerequisite: Consent of instructor and approval of director. **Wakerlin, Beindorf**

An elective for special study in area of choice. MED ILLUS

436A-B-C. Portfolio & Graduate Show. (4-4-4) F, W, Sp. Lecture 1 hour. Lab 9 hours. **Wakerlin, Beindorf**

Portfolio design and assembly; design and production of graduate show including budget and arrangements for space, guest lists, invitations, food and beverages for reception. MED ILLUS

Medical Information Science

172. Programming Style. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. **Wasserman**

A systematic approach to the design and construction of computer programs. Development of clear, reliable, efficient and easily modifiable programs; introduction and use of Pascal; use of software tools; programming exercises involving advanced programming techniques. MED INF SC

190. Information Structures. (4) § Sp. Prerequisite: Knowledge of one higher level programming language. Lecture 3 hours. Lab 3 hours. **Staff**

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

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

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

201. Content & Format of Information. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours. **Whiting-O'Keefe**

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

210A. Computer Systems I. (4) § F. 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) § W. Prerequisite: Medical Information Science 210A or equivalent, or consent of instructor. Lecture 3 hours. Lab 3 hours. **Wasserman**

Language processors; software engineering concepts; specification and design of software systems; and software reliability. MED INF SC

222. Systems Analysis of Medical Care. (4) § W. Lecture 4 hours. **Stimson**

Introduction to use of operations research and systems analysis as aids to design, management or evaluation of medical care systems. Application of operations research techniques to hospitals and other health care facilities is studied within a systems framework. MED INF SC

225. Design of Systems. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours. **Blois**

The design of previous medical information systems is examined. Successful components of the systems will be studied in depth, with respect to cost, performance, and acceptability. Field trips to existing systems will be made. MED INF SC

240. Data Base Management. (3) § Sp. Prerequisite: Medical Information Science 210B or equivalent, or consent of instructor. Lecture 3 hours. **Staff**

Course covers techniques for logical and physical data base organization, data independence, models of data, approaches to large scale data base management, security and privacy, data description languages, and query languages. MED INF SC

247. Concepts of Information Science. (2) § F, W, Sp. Seminar 2 hours. **Blois**

Course covers the treatment of a number of fundamental concepts which form the basis of information science, such as the nature of information and communication, and the problem of representation of knowledge. MED INF SC

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

290. Selected Topics. (1-6) § F, W, Sp. Lecture 1 hour. Lab 0-15 hours. **Staff**

Selected topics in medical information science. Subjects chosen will range from special topics in information science to hardware, software, and systems studies. MED INF SC

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

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

Medicine

110. Medicine Core Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and 132A-B-C. Open to UCSF students only. **L. H. Smith, Carbone, Sleisenger, 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. Intro to Clinical Medicine. (1-2-3) F, W, Sp. Prerequisite: First-year standing or consent of instructor. Lecture 1 hour F. Section work 2 hours F; 4 hours W, Sp. **Altman**

Interdepartmental instruction in: interviewing skills and techniques; basic physical examination and interpretation of symptoms relating to locomotor system, eye, ear, upper respiratory tract, and skin; and social responsibilities of medical practice. Lectures, clinical demonstrations, conferences, preceptorship in ambulatory care setting. MEDICINE

132A-B-C. Intro to Clinical Medicine. (8-8-3) F, W, Sp. Prerequisite: Anatomy 100, 102, and 103; Biochemistry 100A-B; Medicine 131A-B-C; Microbiology 100A and 100B (may be taken concurrently); Pathology 101, 102, and 103 (may be taken concurrently); Physiology 100 and 101; or consent of instructor. Lecture 5 hours, F, W; 1 hour Sp. Lab 2 hours F. Section work 4 hours F, Sp; 6 hours W. **Altman**

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 Medicine Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Satisfactory completion of Medicine 110 and consent of instructor for third-year students. **L. H. Smith, J. V. Carbone, Sleisenger, R. Haber, Woeber**

Students are assigned patients on the staff and private wards. They are supervised by attending and resident staff. They present patients on ward rounds, assist with procedures, and attend specialty conferences where their patients are involved. MEDICINE

140.02. Off-Campus Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and approval of third- and fourth-year coordinator. **L. H. Smith, J. V. Carbone**

Clinical clerkships in off-campus hospitals approved by the department chairperson, third- and fourth-year coordinator and the dean. MEDICINE

140.03. Adv Medicine Clerkship CRI-UC. (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

140.05. Cardiology-PMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor. **Selzer**

Students participate in various clinical cardiological activities and attend related teaching conferences and patient rounds. They are instructed in electrocardiographic interpretation and participate in daily ECG teaching sessions. MEDICINE

140.08. Gastroenterology-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. Cardiology-MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 140.01 or equivalent senior ward medicine experience. Consent of instructor. **Mailhot, E. Cohen, Paley**

Students work up patients, follow through diagnostic procedures, phonocardiograms, echocardiograms, stress electrocardiograms, nuclear cardiology, and angiocardigraphic studies. Instruction in diagnosis of heart disease, pathophysiology of heart disease, heart sounds and therapy. Attendance at departmental conferences. Reading assigned. MEDICINE

140.10. Pulmonary Medicine-MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and 140.01 or equivalent senior ward medicine experience. Consent of instructor. **Addison**

Consultative service including diagnostic pulmonary problems, Intensive Care Unit consultations. Fiberoptic bronchoscopy and physiologic evaluation. Students will work up patients and follow them on a daily basis, discussing all aspects of their care with pulmonary residents and attending physician. MEDICINE

140.16. Hematology-SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Embury, R. O. Wallerstein, R. Cohen**

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

140.18. Gastroenterology-VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **T. Boyer**

Students are incorporated into the Gastroenterology Unit. They are assigned consultations, perform sigmoidoscopies under supervision, observe gastrointestinal endoscopy, and small bowel biopsy. They participate in all rounds and conferences. MEDICINE

140.19. Cardiology-VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Karliner**

Students share consultations and on-call with cardiology residents; work up patients on wards in CCU; assist at DC electrical conversion; interpret EKG's and vectorcardiograms; attend rounds and conferences. MEDICINE

140.20. Infectious Disease-UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **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, J. V. 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-Cardiovascular. (6) W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited. **Sebastian, Sleisenger, Scheinman**

Overall emphasis on prototypes of cardiac disease demonstrating fundamental physiological defects. Lectures cover background material and general concepts. Students participate in discussions, attend laboratory demonstrations, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists. MEDICINE

140.22B. Pathophysiology-Hematology. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. **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-Renal Disease. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited. **Sebastian, Sleisenger**

Intensive review of renal physiology and pathophysiology. Two seminars per day. Two-volume syllabus of journal articles provided. Students participate in discussions and learn to evaluate literature critically. MEDICINE

140.22D. Pathophysiology-Oncology. (6) F, W, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. **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-Derm/Inf 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-Pharmacology. (6) F. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited. **Sebastian, Sleisenger, Holford**

Emphasis on rational therapies. Participation in daily activities of the clinical pharmacokinetics laboratory to understand the effect of disease on drug disposition. Lectures cover theory and application of pharmacokinetics and pharmacodynamics to the treatment of disease. Reading lists. MEDICINE

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

Sebastian, Sleisenger, Stobo

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists. MEDICINE

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

Overall emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists. MEDICINE

140.22I. Pathophys-Endocrine Metabolism. (6) F, Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. **Sebastian, S. L. 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. Pathophys-Gastroenterology. (6) Sp. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.

Sebastian, Sleisenger, Ockner

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-Pulmonary. (6) F, W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.

Sebastian, Sleisenger, Boushey, W. Gold

Emphasis on prototypes of disease in organ systems demonstrating fundamental biochemical or physiological defects. Lectures cover background material and general concepts. Students participate in discussions, workshops, seminars; are assigned topics for presentation, and are encouraged to develop ability to evaluate literature critically. Reading lists. MEDICINE

140.22L. Pathophysiology-Nutrition. (6) W. Prerequisite: Medicine 110, Pediatrics 110 or Surgery 110. Enrollment limited.

Sebastian, Sleisenger, Nestle

Emphasizes biochemical and physiological concepts that determine nutritional management of problems in clinical medicine. Students attend lectures, participate in discussions and develop an independent ability to critically evaluate research literature in nutrition and apply information to management of specific clinical problems. MEDICINE

140.23. Endocrine Metabolism-UC. (1½ per week) F, W, Sp. Prerequisite: Medicine 110. **Baxter, Karam**

Students based at Moffitt Hospital, eleventh floor east, act as assistants to interns, residents and research fellows on the ward; attend en-

docrine and metabolic clinics and seminars, and teaching exercises of endocrinology and metabolism, including Medicine Grand Rounds. MEDICINE

140.24. Rheumatology & Immunology-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 Disease-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 biweekly seminars in renal and electrolyte diseases. MEDICINE

140.26. Critical Care-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. Cardiopulmonary-C. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Keroes**

Students attend rounds in the Coronary Care Unit; receive instruction in cardiology, stressing electrocardiography; may work in the pulmonary function laboratory, and attend all regular teaching conferences and seminars. MEDICINE

140.28. Infectious Disease-SFGH. (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-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. Endocrine Metabolism-SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Biglieri, Schambelan**

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. MEDICINE

140.31. Gastroenterology-L. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Goldner**

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-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. **N. Goldschlager, Rapaport**

Students work as interns in the Coronary Care Unit and attend all regular teaching conferences and seminars. MEDICINE

140.33. Infectious Diseases-PMC. (1½ per week) Su, Sp. Prerequisite: Medicine 110. Open to UCSF students only. **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. Renal Disease-UC. (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-SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Cheitlin, Rapaport, N. Goldschlager, Warnowicz, Byrd**

Students see patients in consultation on wards and clinics, read electrocardiograms, review cases with cardiac consultant, and attend all seminars and conferences. MEDICINE

140.36. Emergency Medicine-UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and consent of instructor. **Heller**

Students serve forty hours per week, Monday through Friday, as externs working and sharing responsibilities with residents and interns. Lectures and emergency medicine conferences are held daily. Emphasis is on bedside instruction. MEDICINE

140.39. Pulmonary Disease-UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Boushey**

Students examine patients in Chest Clinic, on the wards and in RCU, and present them

at ward rounds, pulmonary function and radiology conferences. They participate in pulmonary function testing and do assigned reading. MEDICINE

140.41. Gastroenterology-SFGH. (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. Toxicology & Occup Med-SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Preference given to UCSF students. Limited enrollment for off-campus students. **C. Becker**

Students evaluate patients in hospital and clinic settings. Students participate in patient oriented rounds with special emphasis on toxicology, occupational medicine, drug overdose, drug abuse, and alcoholism, as well as treatment of cardiovascular and gastrointestinal diseases. MEDICINE

140.43. Rheumatology & Immunology-VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Seaman**

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

140.45. Endocrine Metabolism-VA. (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

140.46. Pulmonary Medicine—SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year medical student in good standing.

J. Murray, Hopewell, Sheppard

Pulmonary disease, including clinical manifestations, basic pathophysiology, use and limitations of diagnostic studies and treatment. Experience will be gained by seeing patients on wards and through a series of ongoing conferences, ward rounds and review sessions under close faculty supervision. MEDICINE

140.52. Renal Disease—VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

Arief

Clerkship in clinical nephrology. Lectures, rounds, conferences, renal biopsy review. Patients with acute and chronic renal disease, acute and chronic dialysis patients, patients with fluid and electrolyte problems. Renal grand rounds, journal club, nephrology research, and renal pathophysiology conferences weekly. MEDICINE

140.53. Infectious Disease—MZ. (1½ per week) F, W, Sp. Prerequisite: Medicine 110.

L. Drew, Mintz

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

140.55. Advanced Medicine Clerkship—C. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. Limited to fourth-year students. **Busch**

Students, teamed with a resident, will evaluate and share in the care of patients admitted to an acute care hospital. Experience includes history-taking, physical examination, therapeutic plan, and progress notes. Attendance at daily teaching rounds and conferences. MEDICINE

140.56. Geriatric Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110.

Feigenbaum, H. Brownstein, Botkin, L. Fink

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—VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor. **Deedwania**

Students see patients in the coronary care unit, wards and clinics at the University of California Teaching Facility at Fresno. They will develop and implement treatment plans with the consultant, read electrocardiograms, and attend all seminars and conferences. MEDICINE

140.58. Pulmonary Disease—VAF. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor. **Stauffer, J. Carbone**

Students on Chest Service will have primary care responsibilities for medical inpatients under supervision of the Physician Director of the Respiratory Care Service. Instruction on topics such as the use of respirators, arterial blood gas sampling and techniques. MEDICINE

140.59. Adv Medicine Clerkship KTU—UC. (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—VMC & VME. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year standing. **Bertken**

Experience with rheumatic diseases and chronic musculoskeletal pain including arthritides and collagen-vascular disorders as seen in clinics. Develop skills in history-taking, physical examination, selection and interpretation of diagnostic procedures, approaches to management, including drug therapy. Supervision by division chief and faculty. MEDICINE

140.61. Advanced Medicine Clerkship—VAF. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year standing. **Morrelli, B. Murray**

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

140.62. Emergency Medicine—MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Surgery 110. **C. Getz**

Emergency room experience providing acute care to a mixed inner city and middle class population. Students see medical emergencies, minor trauma, and acute problems in a variety of disciplines including gynecology, ophthalmology, ENT, and orthopaedics. Attendance at specialty conferences encouraged. MEDICINE

140.63. Advanced Medicine Clerkship—KP. (1½ per week) Su, F, W, Sp. **Shearn**

Fourth-year elective rotation for one month on medical wards at Kaiser Foundation Hospital in Oakland. Students will be integrated

into the residency training program and will be involved in the care of hospitalized patients in an urban community prepaid health plan hospital. MEDICINE

140.64. Cardiology—UC. (1½ per week) F, W, Sp. Prerequisite: Medicine 110. **D. Perloff, Scheinman**

Instruction in interpreting electrocardiograms as well as other diagnostic procedures used in cardiology, such as echocardiography, exercise testing, use of radioisotopes, electrophysiologic, hemodynamic, and radiologic studies. Students regularly attend cardiac and hypertension clinics, cardiology conferences and rounds. MEDICINE

140.65. Oncology—UC. (1½ per week) W. Prerequisite: Medicine 110 or Pediatrics 110 or Surgery 110. **L. B. Epstein**

Four one-week clinical rotations taught by faculty in inpatient medical, pediatric, radiation, and surgical oncology. Daily noon lectures on diagnosis, management, therapy of patients with malignancy by faculty and guest oncologists. Syllabus of pertinent references from current oncology literature. MEDICINE

140.66. Internal Medicine—VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year standing. **Libke**

Students assigned to teams with first- and second-year residents, rounds with attending faculty, participation in daily conferences. Emphasis on pathophysiology of disease processes, management of acute medical problems. Refine skills in history-taking, physical examination, write-ups, presentations, techniques of diagnostic procedures. MEDICINE

140.67. Ambulatory Care—VAP. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year standing and Medicine 110. **Nightingale, Ginier**

Students refine clinical skills through participation in pre-admission evaluation of am-

bulatory patients. Schedule also permits participation in selected specialty clinics. Students attend daily conferences of the Department of Medicine. MEDICINE

140.68. Infectious Disease—VMC & VAF. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **Libke**

Management of common and unusual infectious diseases. May include use of antimicrobials in presence of impaired renal or hepatic function; treatment of infection in immunologically compromised host, etc. Participation in patient evaluation, treatment follow-up, ward rounds, conferences. Microbiology laboratory can be arranged. MEDICINE

140.69. Cardiology—VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor. **Grayson**

Participation with house staff in patient care on CCU, ICU, medical wards, outpatient clinics. Introduction to invasive and non-invasive diagnostic procedures, techniques of management in care of hospitalized and ambulatory patients. Attend ECG interpretations, CCU rounds, consults, and teaching conferences. MEDICINE

140.70. Hematology, Oncology—VMC & VAF. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year standing and Medicine 110. **Stolberg, Jensen-Akula**

Students participate in the work-up of hospitalized patients and follow up progress of patients in specialty clinics seen in consultation by hematology oncology staff. Clinical experience is augmented by reading program, slide review sessions, tumor board meetings and specialty conferences. MEDICINE

140.71. Pulmonary Disease—VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or consent of instructor. **Lohne**

Evaluation and management of adult patients with respiratory diseases, supervised

by house staff and faculty, Pulmonary Medicine section. Emphasis on physical examination of chest, interpretation of X-ray, arterial blood gases, pulmonary function studies. Gain familiarity with respirators and other aspects of respiratory care. MEDICINE

140.72. Gastroenterology—VAF. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year standing and Medicine 110. **Gitlin**

Participation in evaluation of patients with gastrointestinal problems (gastrosopies, ERCP, colonoscopies, liver biopsies, peritoneoscopy, bowel biopsies) on wards and in outpatient clinic. Experience includes demonstration of investigation (acid perfusion and others), weekly clinical conference, liver histology, and tutorial discussion sessions. MEDICINE

140.73. Rheumatology & Immunology—SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110. **I. Goldstein, Perez, J. Rosenbaum**

Students will be assigned inpatients and outpatients for work-up and management under the supervision of fellows and attending physicians. Students also will participate in clinical rounds, clinical conferences, research seminars and journal clubs. MEDICINE

150.01. 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, Jessop**

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. Clinical Skills Seminar. (2) W, Sp. Prerequisite: Second-year standing or consent of instructor. Seminar 1 hour. Lab 3 hours.

Altman, K. Fitzgerald, 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

160.04. Med Science & Clinical Problems.

(1) F, W, Sp. Prerequisite: Third-year standing and enrollment in the Medical Scientist Training Program. Lecture 1 hour. **D. Cox, Nestle**

Faculty and students participate in a combined clinical rounds-seminar course designed to develop students' analytical approach in relating basic medical research to clinical problems. Intended for advanced students in the Medical Scientist Training Program. MEDICINE

160.05. Clinical Occupational Medicine.

(1-5) F, W, Sp. **La Dou, Garb**

Clinical demonstrations and case presentations representative of occupational and environmental disease. MEDICINE

170.04. EKG Fundamentals—VA (1) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. Lecture 1 hour. **M. Goldman**

Instruction in basic electrophysiologic principles and interpretation of electrocardiograms. MEDICINE

170.05. EKG Interpretation. (1) W. Prerequisite: Medicine 131A. Lecture 1 hour.

Rapaport

Review of physical principles of electrocardiography and clinical application of electrocardiographic interpretation. MEDICINE

170.07. Non-Invasive Lab Cardiology. (1) Sp. Prerequisite: Medicine 170.05.

Rapaport

Fundamentals of non-invasive laboratory cardiologic procedures will be discussed. Techniques and role of echocardiography, stress electrocardiography, Holter monitoring, phonocardiography, systolic time intervals, vectorcardiography, apexcardiography and other areas will be covered. MEDICINE

170.08. Introduction to Cancer Medicine.

(2) F. Lecture 2 hours. **L. White**

Biomedical, clinical, and psychosocial aspects of cancer will be explored. Course provides a humanistic orientation to cancer that will form a framework for better understanding and integration of information on cancer presented to other health science courses. MEDICINE

170.09. Current Topics in Med 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

170.10. Intro to Occupational Medicine.

(1) W. Lecture 1 hour. **La Dou**

Practice of occupational medicine as related to the prevention, recognition, and treatment of disease and injuries resulting from employment. Interaction of economic, political and social forces bearing on worker health problems. Effects of the enterprise on the community and consumer. MEDICINE

170.11. Environmental Medicine. (1-5) F, W. Seminar 1-5 hours. **La Dou**

Tutorial concerned with environmental medical problems. MEDICINE

170.12. Geriatric Medicine. (2) W. Lecture 1½-2 hours. **Feigenbaum**

Course will inform students about issues pertaining to the health care of the elderly and educate them about medical and social concerns of elderly people before the students begin their clinical years. MEDICINE

170.13. Current Issues in Nutrition. (1) W. Prerequisite: Biochemistry 100B or concurrent enrollment. Lecture 1 hour. **Nestle**

Course emphasizes critical examination and analysis of the experimental evidence that relates dietary intake of specific nutrients to human disease conditions. MEDICINE

170.14. Nutrition in Health Sciences. (1) W. Prerequisite: Biochemistry 100B or concurrent enrollment. Lecture 1 hour. **Nestle and Staff**

Course emphasizes the application of nutritional principles for the prevention and treatment of disease in ambulatory as well as hospitalized patients. MEDICINE

180. Industrial Toxicology. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **C. Becker**

To provide understanding of basic principles of toxicology as related to work environment and workers' health. Emphasis is on chemicals including heavy metals and pesticides, methods of surveillance, principles of acute and chronic toxicity testing. Includes lectures, student presentations, and discussion. MEDICINE

181.08. Holistic Approaches to Health.

(2) W. Seminar 2 hours. **P. Lee, Pelletier**

Complementary strategies to the current biomedical effort may be developed from a critical, yet open-minded examination of the limits of medicine, the determinants of health, ancient systems of healing, biofeedback and self-regulatory therapies, self-care and mutual aid. MEDICINE

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." MEDICINE

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." MEDICINE

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

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

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

Concepts of patients' rights, right to care, right of informed consent, right to treatment, will be analyzed in legal and ethical cases. Objective is to increase awareness of claims to certain "rights" which impose duties on providers of health care. MEDICINE

189. Patients' Rights in Health Care. (1) § F. Lecture 12 hours. Course is given as a two-day workshop. **Jonsen**

Four cases illustrating typical ethical issues: patients' rights to treatment, to refuse treatment, to choose one's own treatment, and to equal treatment, are presented and analyzed. Formation of personal ethical position in light of current law and ethics is stressed. MEDICINE

189.01. Ethics in Health Care. (1) § W. Lecture 12 hours. Course is given as a two-day workshop. **Jonsen**

Lecture and workshop discussion of several medical care situations in the light of their ethical and policy dimensions: care of endangered and defective newborns, experi-

mentation using normal children, public funding of sterilization programs, and chronic disease and quality of life. MEDICINE

189.02. Biomedical Ethics. (1) § Sp. Lecture 12 hours. Course is given as a two-day workshop. **Jonsen**

Lecture and workshop discussion 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. MEDICINE

198. Supervised Study. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor preceptor and approval of third- and fourth-year coordinator. **L. H. Smith, J. V. 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. (1-5) Su, F, W, Sp. Prerequisite: Consent of instructor preceptor and approval of third- and fourth-year coordinator. **L. H. Smith, J. V. Carbone**

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

200. Health & Aging. (2-4) § W, Sp. Prerequisite: Graduate standing. Consent of instructor. Lecture 2-4 hours. **P. Lee, H. Lipton**

Examines the health status of the aged in the U.S. in light of relevant biological, behavioral, sociocultural and environmental factors. Social, cultural and economic factors affecting the organization, financing, and delivery of health care to the aging population are examined. MEDICINE

400. Medical Staff Conferences. (2) F, W, Sp. **UC 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 to their respective fields. MEDICINE

401. Interdept Clinical Correlation. (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. Medical Literature Seminar. (1½) F, W, Sp. **VA Sleisenger**

Seminars on recent literature in internal medicine, with assigned reading, required reports, and evaluation of presented material by interns, residents, and faculty. MEDICINE

403. Specialty Seminar. (2) F, W, Sp. **L. H. Smith**

Seminars are conducted in the fields of gastroenterology, hematology, cardiology, electrocardiology, endocrinology, chest diseases, psychosomatic medicine, arthritis and rheumatic diseases, infectious diseases, and radiology. Library research, occasional formal reports and patient presentations are required. MEDICINE

404. Specialty Seminar. (4) F, W, Sp. **SFGH H. Williams and Staff**

Seminars are conducted in cardiology, hematology, gastroenterology, infectious diseases, metabolic diseases, and pathology, involving discussions, required reading, and reports. MEDICINE

405. Specialty Seminar. (4) F, W, Sp. **VA Sleisenger**

Seminars are conducted in cardiology, electrocardiology, hematology, gastroenter-

ology, radiology, fluid and electrolyte balance, endocrinology and pathology, involving discussions, required reading, and reports. Elective seminars include a chest disease conference, joint medical and surgical conference, tumor board, dermatology conference, and neuropsychiatry conference. MEDICINE

406. Research Elective. (1-10) Su, F, W, Sp. UC L. H. Smith, SFGH H. Williams, VA Sleisenger

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

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

Residents take an active part in the presentation and discussion of problems connected with the correlation of clinical manifestations of disease with postmortem studies. Conferences include reference to the literature, clinical demonstrations, and laboratory work. MEDICINE

408. EKG Interpretation. (2) Su, F, W, Sp. Sokolow

Seminars (individual instruction) for residents in medicine and trainees in cardiology by cardiac consultants in the interpretation of all electrocardiograms and phonocardiograms taken at UC. MEDICINE

450. Clinical Medicine. (10) Su, F, W, Sp. SFGH H. Williams, UC 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—M.Z. (10) Su, F, W, Sp. Weeber

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. (1½ per week) Su, F, W, Sp. Crede and Staff

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

461. Clinical Primary Care. (1½ per week) Su, F, W, Sp. Crede and Staff

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

490. Clinical Medicine. (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. Medical Immunology. (1½) Sp. Prerequisite: Biochemistry 100A-B. Lecture 2 hours. Equivalent to Microbiology 121 and 190A. Linscott

Lectures on the fundamentals of immunology. Small group seminars on patient-related problems in this field. MICROBIOL

100B. Medical Microbiology. (6½) F. Prerequisite: Biochemistry 100A-B. Lecture 4½ hours. Lab 3 hours. Conference 1 hour. Equivalent to Microbiology 190B.

W. Levinson

Pathogenesis of infection by bacteria, fungi and viruses. Essentials of diagnosis, treatment, and epidemiology of diseases. Laboratory demonstrations and exercises of essential medical skills. Problem-solving exercises and small group seminars involving clinical cases. MICROBIOL

120. Microbiology in Pharmacy. (3) Sp. Lecture 3 hours. Halde

Fundamentals of microbiology for pharmacy students with emphasis on mechanisms of disease production by bacteria, fungi and viruses. Antibiotics, mode of action and genetics, toxins, indigenous flora, hospital infections, immunization. MICROBIOL

121. Medical Immunology. (1½) Sp. Prerequisite: Biochemistry 120A-B. Required

course for students in the School of Pharmacy. Lecture 2 hours. Seminar 3 hours. Equivalent to Microbiology 100A and 190A. Linscott

Lectures on the fundamentals of immunology. Small group seminars on patient-related problems in this field. MICROBIOL

126A. Immunology in Dentistry. (1) Sp. Lecture 1 hour. R. Speck

Introduction to general immunology. MICROBIOL

126B. Microbiology in Dentistry. (5) W. Lecture 3 hours. Lab and conference 6 hours. 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

127. Microbiology Laboratory. (2) § Sp. Prerequisite: Concurrent enrollment in Microbiology 120. Lab and conference 4 hours. Halde

Morphology, physiology, and immunology techniques used in laboratory diagnosis of selected bacterial diseases. Antibiotic susceptibility, disinfection, and sterility exercises. Demonstration on virology. MICROBIOL

150.01. Microbiology Research. (1½ per week) Su, F, W, Sp. Prerequisite: Microbiology 100A and 100B and consent of instructor.

Staff

Research in microbiology; block elective for fourth-year students. MICROBIOL

190A. Med Immunology-Grad Stdnts. (1½) § Sp. Prerequisite: Biochemistry 100A-B. Lecture 2 hours for nine weeks. Equivalent to Microbiology 100A and 121. Linscott

Lectures on the fundamentals of immunology. Small group seminars on patient-related problems in this field. MICROBIOL

190B. Graduate Medical Microbiology. (6½) § F. Prerequisite: Biochemistry 100A-B. Lecture 4½ hours. Lab 3 hours. Conference 1 hour. Equivalent to Microbiology 100B.

W. Levinson

Pathogenesis of infection by bacteria, fungi, and viruses. Essentials of diagnosis, treatment, and epidemiology of diseases. Laboratory demonstrations and exercises of essential medical skills. Problem-solving exercises and small group seminars involving clinical cases. MICROBIOL

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

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

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

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

203. Molecular & Cellular Immunology. (3) § F. Prerequisite: Biochemistry 100A-B and Microbiology 100A and 100B or equivalents. Lecture 3 hours. Offered in alternate years. Offered 1983-84. J. W. Goodman, G. Lewis

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 1983-84. 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 Cell Immunol. (3) § Sp. Prerequisite: Microbiology 203 and 204. Lecture 3 hours. Offered in alternate years. Offered 1983-84. 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 or equivalent.

Halde

A systematic review of the fungi responsible for human disease, emphasizing pathogenesis, epidemiology, and diagnostic laboratory procedures. MICROBIOL

207. Cellular Immunology Lab. (3) § Sp. Prerequisite: Microbiology 203, 204 and concurrent enrollment in Microbiology 205. Lab 9 hours. Offered in alternate years. Offered 1983-84. 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. Molec Biol of Tumor Viruses. (3) § W. Prerequisite: General knowledge of nucleic acid structure and chemistry and multiplication of viruses. Lecture 1½ hours. Seminar 1½ hours. Offered in alternate years. Not offered 1983-84. Varmus, J. M. Bishop, Levintov

The nature of viruses: dynamics of virus-cell interaction with emphasis on animal virus

systems, control of expression of virus-specific information in lytic and temperate infection, and role of viruses in malignant transformation of cells. MICROBIOL

209. Special Topics in Immunology. (1) § Sp. Prerequisite: Microbiology 203 and 204. Conference 1 hour. **J. W. Goodman and Staff**

Small group tutorial in which topics and correlative reading will be selected by students for discussion with individual faculty members. MICROBIOL

210. Research Problems in Mycology. (1-5) § F. Prerequisite: Microbiology 100A, 100B and 206. Lab and conference. **Halde**

Participation in research problems in a mycology laboratory. This is not a structured laboratory methods course, but rather a practical research experience involving basic research with pathogenic fungi. MICROBIOL

220. Selected Topics Seminar. (1) § F, W, Sp. Seminar 1 hour. **Staff**

General microbiology; individual research of advanced graduate students, invited speakers and staff members. Reviews of special topics and journal articles by advanced students. MICROBIOL

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

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

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

Neurological Surgery

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

140.01. Advanced Neurosurgery Clerkship. (1½ per week) Su, F, W, Sp.

C. B. Wilson

The student will become a member of the house staff, attending ward rounds, working up patients, assisting at operations, and taking night call on rotation with a resident. Limited to one student per hospital. NEURO SURG

140.02. Off-Campus Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110. **Rosegay**

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

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

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

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

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

400. Staff Conference. (2) Su, F, W, Sp. **C. B. Wilson**

Residents, under supervision, prepare and present case histories of ward patients including laboratory work, X-ray studies, special investigation and reference to the literature. Discussion is led by the faculty with participation by visitors. NEURO SURG

402. Clinicopathological Conference. (2) Su, F, W, Sp. **R. Davis, C. B. Wilson**

Residents discuss clinicopathological aspects of cases, and their correlation with the literature and special studies. Faculty and visitors discuss developments in related fields. Second-year residents organize conferences and participate in gross autopsies on patients from the Neurological Surgery Service. NEURO SURG

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

Recent literature in neurology and neurological surgery is presented. Discussion by members of the faculty in attendance and by visitors from other schools interested in this and related fields. NEURO SURG

450. Clin Neurological Surgery—UC. (10) Su, F, W, Sp. **C. B. Wilson**

Residents, under supervision, are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, and consultations. In addition, the senior resident has certain administrative, teaching, and clinical responsibilities. NEURO SURG

451. Clin Neurological Surgery—SFGH. (10) Su, F, W, Sp. **Pitts**

Residents are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examinations, laboratory tests, and consultations. In addition, the senior resident has certain teaching and administrative responsibilities required by the attending staff. NEURO SURG

453. Clin Neurological Surgery—VA. (10) Su, F, W, Sp. **P. Weinstein**

Residents are responsible for diagnosis and care of patients in wards and clinics and performance of studies and selected neurosurgical procedures under supervision of the attending staff. They also present patients at conferences and attend seminars and rounds at UC. NEURO SURG

490. Clin Neurological Surg—SFGH & VA. (1½ per week) Su, F, W, Sp. **Pitts, P. Weinstein**

Interns rotate through neurological surgery wards. Under the supervision of the attending staff, they are responsible for the care of patients, including history-taking, neurologic examinations, laboratory tests, diagnostic procedures, and consultation. NEURO SURG

Neurology

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

110. Neurology-Neurosurg Core Clkshp. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. Concurrent enrollment in Psychiatry 135. **Layzer**

Students are assigned patients for study under supervision of attending and resident staffs. They attend work rounds, attending rounds, grand rounds, conferences and lecture-seminars, emphasizing diagnosis and management of common clinical problems and psychiatric aspects of neurology. NEUROLOGY

140.01. Acting Internship Neurology. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110. Approval of the chairperson of the department. **R. Fishman**

Students serve as acting interns on the inpatient services. Attendance at departmental clinical rounds, seminars, and conferences is required. NEUROLOGY

140.02. Off-Campus Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor. **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 Neurology. (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 Neurology Clkshp—SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor. **R. Fishman, R. Simon**

Students serve as clinical clerks in the outpatient clinics and on the consultation service. Attendance at all departmental clinical rounds, seminars, and conferences is required. Prior arrangements must be made. NEUROLOGY

140.06. Advanced Neurology Clerkship—VA. (1½ per week) Su, F, W, Sp. Prerequisite: Neurology 110 and consent of instructor. **R. Fishman, Baringer**

Students serve as clinical clerks in the outpatient clinics and on the consultation service. Attendance at departmental clinical rounds, seminars, and conferences is required. Prior arrangements must be made. NEUROLOGY

150.01. Neurology Research. (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. **R. L. Davis, Baringer**

Tissue pathology of diseases of the nervous system will be explored in greater depth in the postmortem room and by gross and microscopic techniques. NEUROLOGY

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

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

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

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

400. Neuroscience Seminar. (1½ per week) Su, F, W, Sp. **R. Fishman, I. Diamond**

Seminars covering selected subjects in the basic sciences relevant to neurology including neuroanatomy, neurochemistry, neurophysiology, and neuropathology. NEUROLOGY

401. Grand Rounds. (1) Su, F, W, Sp. **R. Fishman**

Conference includes resident preparation and presentation of patient case histories including reference to the literature, laboratory work, and special studies. Faculty members and visiting professors from other universities discuss new developments in their respective fields. NEUROLOGY

402. Neurological & Neurosurgical Path. (1) Su, F, W, Sp. **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. Neuropathology Research. (1-10) Su, F, W, Sp. Prerequisite: Second- and third-year residents. **R. L. Davis**

Course involves pathologic and clinicopathologic research into various aspects of neuropathology. Specific subjects of research are chosen in conjunction with members of the staff. NEUROLOGY

407. Neuroradiology. (1) F, W, Sp.**T. Newton, D. Norman**

Neuroradiologic techniques and interpretations are reviewed in detail with particular emphasis on X rays of the skull and spine, pneumoencephalography, myography and arteriography. NEUROLOGY

411. Neurology Research. (5-13) Su, F, W, Sp.**R. Fishman**

Clinical and basic research in neurological disease. After consultation, assignments to one of the several departmental laboratories will be possible. NEUROLOGY

412. Neuropathology Research. (10) Su, F, W, Sp.**VA 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

450. Clinical Neurology—UC—SFGH—VA. (10) Su, F, W, Sp.**R. Fishman**

Residents are responsible for the care of patients under the direction of the attending staff, and participate in student teaching. They serve on the inpatient, outpatient and consultation services. NEUROLOGY

453. Clinical Electroencephalography. (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 Electromyography. (1½ per week) Su, F, W, Sp.**Aminoff**

Students learn the application of electromyography in the diagnosis of patients seen in the wards and in the outpatient clinic, with

individual instruction as required. NEUROLOGY

456. Clinical Neuropathology. (1½ per week) Su, F, W, Sp.**Malamud**

Residents spend three months or more performing supervised autopsies and pathological studies of brain, nerve and muscle. 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 neurological 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

Neuroscience

201A-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, Reichardt, J. Korenbrot

An in-depth interdisciplinary introduction to fundamental aspects of nervous system function: membrane structure, biophysics, ion transport mechanism, cellular neuroanatomy, synaptic transmission, integration, and development of synaptic connections invertebrate and vertebrate, sensory, motor systems, autonomic and neuroendocrine regulatory mechanisms, higher functions. PHYSIOLOGY

203B. Topics in Vision. (3) § W. Prerequisite: Neuroscience 201A-B-C. Consent of instructor. Lecture 3 hours. Offered in alternate years. Offered 1983-84.

R. Steinberg, Copenhagen, J. Korenbrot, Stryker, A. Kelly, Lisberger

Consideration at an advanced level of selected topics in vision from the retina to the cortex. Lectures, student presentations, and discussion of literature are included. PHYSIOLOGY

212. Developmental Biology. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. Enrollment limited. Offered every three years. Offered 1984-85.

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

220. Selected Topics. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

Z. Hall

Topic in neurobiology is selected such as development, anatomy and physiology of the visual system, biochemistry of membranes. Pertinent papers from the recent literature are read and discussed. Each student must participate regularly and present one seminar per quarter. PHYSIOLOGY

222. Neurobiology of Peptides. (2) § Sp. Prerequisite: Neuroscience 201A-B-C. Conference 2 hours. Offered in alternate years. Offered 1983-84.

Y-N Jan, A. Basbaum, H. A. Fields, L. Jan, Mayers, R. Nicoll

Course covers the possible roles of peptides in the nervous system. Current literature pertaining to functions of peptides in the nervous system such as neurotransmitters, hormones, trophic factors will be included. Emphasis on issues of current interest and new techniques. PHYSIOLOGY

230. Experimental Neurobiology. (5) § SS. Prerequisite: Consent of instructor. Lecture and lab.

Y-N Jan

Laboratory course designed to acquaint students with electrophysiology and anatom-

ical methods used in studying peripheral and central nervous systems. Techniques included are extra- and intracellular recordings, iontophoresis, dye injection, tracing of neuronal pathways. PHYSIOLOGY

Nursing

103. Introduction to Nursing. (7) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 15 hours.

C. West

Introduction to nursing and nursing process: fundamental nursing, terminology, facts, trends, and their application in nursing practice. PHYSIOL NURS

104. Nursing of Adults. (9) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 21 hours.

C. West

Application of the nursing process to the physiological, psychological and sociological aspects of regulating response mechanisms to stress. PHYSIOL NURS

105. Maternal-Child Nursing. (9) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 21 hours.

Savedra

Application of principles and theories to nursing care given during the life processes of reproduction, nurturance and development, and alterations due to stressors during pregnancy and child development from birth to adolescence. FAM HLTH

106. Psychiatric Mental Hlth Nursing. (9) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Lecture 2 hours. Lab 21 hours.

J. G. Lipson

Principles and dynamics of personality and family development. Application of the nursing process with clients who have coping problems resulting from stressors in selected developmental or situational crises. MENT HLTH COM

122. Integrated Science. (4) F. Lecture 4 hours.

Preisig

Examination of content in regulation, sensation, protection, and motion as they relate to adaptive mechanisms in man at the cellular level. PHYSIOL NURS

124. Psychosocial Nursing Concepts. (3) F. Lecture 3 hours.

O'Rourke, Laffrey

Course synthesizes key theories and processes from mental health and community nursing to provide students with a perspective for analyzing concepts basic to psychosocial adaptation and development. MENT HLTH COM

126. Human Behavior & Development. (3) W. Lecture 3 hours.

Kayser-Jones

Examination of human development such as biological, cognitive and social aspects, and behavior across the life span. Emphasis will be on adult development and application to nursing practice. FAM HLTH

127. Acute Illness Adaptation. (5) F. Prerequisite: Admission to Articulated B.S./M.S. Program. Nursing 129 or concurrent enrollment. Lecture 2 hours. Lab 3 hours. Seminar 2 hours.

C. West

Course describes and explores concepts related to the nursing care of the acutely ill patient. Description of behaviors, measurements and nursing actions appropriate to the concepts will be compared and contrasted across a variety of acute illnesses. PHYSIOL NURS

128. Intro to Research & Theory. (3) W. Lecture 2 hours. Seminar 1 hour.

H. Wilson

Introduces basic research concepts, language, process, logic, and methods for various types of research as well as the meaning and use of nursing theory. Engages students in skills of intellectual craftsmanship including effective reading, thinking, and writing to im-

prove research consumership. MENT HLTH COM

129. Health Assessment. (3) F. Lecture 2 hours. Lab 3 hours.

Branton

Presentation of a basis for health assessment of clients within an adaptation-developmental model of nursing. Emphasizes data collection through history, physical examination, clinical studies, and identification of stressors altering health status. Laboratory for integration of theory and skill mastery. FAM HLTH

131. Psychosocial Adaptation. (5) W. Lecture 2 hours. Lab 8 hours. Conference 1 hour.

O'Rourke

Presentation and synthesis of concepts and processes from mental health and community nursing essential to the assessment and management of client-patient systems. Emphasis is on psychosocial adaptation to situational and developmental stressors. MENT HLTH COM

133A. Family Health Care. (3) W. Prerequisite: Nursing 129. Lecture 2 hours. Lab 1 hour. Conference 2 hours.

Nolan

Course deals with the healthy family as the primary unit of health care management. Nursing process applied to promoting family health is emphasized utilizing the adaptation-developmental framework. Community involvement with a family is an integral part of the course. FAM HLTH

133B. Care of Stressed Families. (3) Sp. Prerequisite: Nursing 133A. Lecture 2 hours. Lab 1 hour. Conference 2 hours.

Branton

Analysis of families with situational or developmental problems utilizing an adaptation-developmental framework. Involvement with families in communities is an integral component of the course. Nursing process applied for promoting the health of families is emphasized. FAM HLTH

135. Leadership in Nurs-Client Sys. (4) Sp. Lecture 2 hours. Lab 4 hours. Conference 2 hours.

Hendricks

Course provides opportunity to develop a professional nursing role in a health care system appropriate to the student's area of interest. Knowledge and skill basic to the professional nursing leadership role are the foci of the course. MENT HLTH COM

137. Community Health Nursing. (5) Sp. Lecture 2 hours. Lab 7 hours. Conference 2 hours. **Laffrey**

Application of community health theory and practice to the community health setting, focusing on assessing, implementing and evaluating nursing care measures as they apply to families, groups and communities. Health planning, community assessment and public policy will be examined. 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. PHYSIOL NURS

177A. Adlt Primary Care Psychosoc Prob. (3) F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **O'Rourke**

Assessment and management of common adaptive responses to situational, developmental stresses, and interruptions in patterns of cognition, sensations, and feelings of adults. Nurse practitioners' behaviors which interact with clients' coping responses will be explored. MENT HLTH COM

177B. Adlt Primary Care Psychosoc Prob. (2) W. Prerequisite: Nursing 177A or consent of instructor. Lecture 2 hours. **J. G. Lipson**

Assessment and management of common adaptive responses to situational, developmental stresses and interruptions in patterns of cognition, sensations, and feelings of adults. Nurse practitioners' behaviors which interact with clients' coping responses will be explored. MENT HLTH COM

181. Law & Nursing Practice. (2) § Sp. Lecture 2 hours. **Tennenhouse**

Survey of fundamental and critical current issues in law with respect to the theory and practice of nursing. Emphasis on legal contingencies encountered in the everyday practice of nursing in both hospital and community settings. PHYSIOL NURS

187. Scientific Writing. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Enrollment limited. **Grout**

Course will prepare students to write and review scientific papers. The scientific style of writing outlined in the APA Manual will be followed. Students will make presentations and participate in group and individual conferences. PHYSIOL NURS

189. Survey of Human Sexuality. (3) § F, W, Sp. Lecture 3 hours. **Ayres**

Theories and concepts of femininity, masculinity, and sexuality throughout the life cycle. Exploration of the wide range of human sexual behavior. Content includes sexual response, common sexual dysfunction and therapy, masturbation, homosexuality, and sexuality in some health conditions. FAM HLTH

197. Group Independent Study. (1-5) F, W, Sp. Lecture and lab variable. **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 areas of interest.

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

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

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

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

200. Administrative Problems. (3) § F, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **Staff**

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. (4) § F, Sp. Lecture 4 hours. **M. 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. PHYSIOL NURS

202A. Theory Development. (3-4) § F. Prerequisite: D.N.S. student standing. Lecture 3 hours. **Meleis**

Examines philosophically and analytically the nature of theory and relationship between philosophy, theory, and science. Provides knowledge and experience in all stages of theory development, exploration and critique of epistemological and historical ideas in nursing; scholarly exchange toward independent discovery. MENT HLTH COM

202B. Prototype Theories. (3-4) § W. Lecture 3 hours. **Meleis**

Comparative study and critical analysis of major prototype theories from which conceptions of nursing are derived. Emphasis is placed on systems, symbolic interaction, developmental exchange, and adaptation level theories. MENT HLTH COM

202C. Theories & Conceptual Framework. (3-4) § Sp. Prerequisite: D.N.S. student standing. Lecture 3 hours. **Meleis**

Comparative study and critical analysis of major conceptual models and theories in

nursing. Considers relationship congruency of models to prototype theories; system, interaction, developmental, adaptation level theories. Examines the implication of nursing theories and models for practice and research. MENT HLTH COM

203. Consultation Theory & Process. (2-3) § Sp. Lecture 2 hours. Lab 0-3 hours. **Oda**

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 Admin. (2-3, 2-3, 2-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Term paper optional for 3 units. **Archer**

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. Management for Health Providers. (3) § F, W, Sp. Prerequisite: Second-year graduate students, non-administrative majors. Seminar 3 hours. **Wellons**

A study of the management process, the role of the manager, the development of staff, and the principles and practice of management in health services. MENT HLTH COM

206. Adult Psychiatric Nursing. (3) § W, Sp. Prerequisite: Nursing 227 and 219 or equivalent, and consent of instructor. Lab 3 hours. Seminar 2 hours. **P. Underwood, H. Wilson**

Seminar designed for graduate psychiatric nursing students to examine and discuss various theories and practice approaches to the

nursing management of psychiatric conditions in adults. MENT HLTH COM

207. Clinical Physiology. (3-5) § F, W, Sp. Prerequisite: D.N.S. student standing. Lab 3-9 hours. Seminar 2 hours. **Carrieri**

Advanced study of the theory and research in the care of patients with physiological disruption and/or illness. In-depth examination of patient problems, assessment and management in the student's selected specialty area. Seminar with clinical laboratory. PHYSIOL NURS

208A. Description Theory & Practice. (3) § F. Prerequisite: D.N.S. student standing. Seminar 3 hours. **Lindsey**

Using clinical rounds and seminar approaches, concepts related to major biological phenomena are examined and described from theoretical, clinical and empirical perspectives. Concepts of interest to nursing are selected from health-illness states observed in patients in acute care setting. PHYSIOL NURS

208B. Measurement Theory & Practice. (3) § W. Prerequisite: D.N.S. student standing. Nursing 208A or consent of instructor. Seminar 3 hours. **Carrieri, Lindsey**

Seminar focuses on the measurement of concepts relevant to physiological processes. Students critically analyze existing quantitative and qualitative instruments used to measure the concepts. Exemplary concepts may include sleep, dyspnea, pain, immobility, cachexia. PHYSIOL NURS

208C. Testing Theory & Practice. (3) § Sp. Prerequisite: D.N.S. student standing. Nursing 208A and 208B or consent of instructor. Seminar 3 hours. **Carrieri, Lindsey**

Seminar focuses on the development and testing of instruments used to measure the concept selected by the student for study. The student will conduct a pilot study to determine the validity, reliability and utility of the instruments. PHYSIOL NURS

209. Social Support Concept & Meth. (2-4) § W, Sp. Prerequisite: D.N.S. student standing. Seminar 2 hours. Independent study optional 3 or 6 hours for 3 or 4 units. **Norbeck**

Analysis of the literature relating social support to various health and adjustment outcomes with emphasis on conceptual and methodological issues. Students will develop a focused review of the social support literature relevant to their research and/or clinical interests. MENT HLTH COM

210A. Family Dynamics-Concepts & Assmt. (2) § W. Lecture 2 hours. **B. Hall, Tescher**

An in-depth study of the theories dealing with family function and dysfunction. Individual dysfunction is seen from the perspective of family system structure and development. Analysis of theory includes identification of concepts that have heuristic value for nursing practice. MENT HLTH COM

210B. Family Dynamics-Pathology & Ther. (2) § W, Sp. Prerequisite: Nursing 279, 210A or equivalent and consent of instructor. Lecture 2 hours. **Tescher, B. Hall**

Seminar emphasizing family concepts which aid in the understanding of dysfunction of families. Marriage and family therapy as treatment modalities are studied. MENT HLTH COM

211A. Introduction to Research. (3) § F, Sp. Prerequisite: Elementary statistics or equivalent. Lecture 2 hours. Lab 3 hours. **Reif**

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. FAM HLTH

211.01B. Patient-Family Teaching Critique. (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. Maternal-Child Nursing Critique. (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

211.05B. Critique of Aging Studies. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

H. A. Fields

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

211.07. Critique of Oncology Nursing. (3) § Sp. Prerequisite: Consent of instructor. Seminar 3 hours.

Dodd

Presentation of the scholarly process of critiquing published research in oncology nursing. Emphasis will be on evaluation of the research processes utilized by investigators, and the implications of empirical findings for oncology nursing practice. PHYSIOL NURS

211.12B. Occup Hlth Res-Critical Review. (3) § Sp. Prerequisite: Nursing 211A or consent of instructor. Lecture 2 hours. Lab 3 hours.

Lessor

Critical analysis of studies exploring the relationship of the workplace to health of the worker. Emphasis is on appraisal of relevant scientific literature, identification of re-

search methods, and development of research proposals in occupational health nursing. MENT HLTH COM

211.14. Illness Behavior Critique. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Chafetz

Critique of research in illness behavior, including psychiatric factors, 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

211.16B. Role of Social Support Critique. (3) § W or Sp. Prerequisite: Nursing 211A or consent of instructor. Lecture 2 hours. Lab 3 hours.

Norbeck

Critical analysis of studies which explore relationships between social support and individual functioning in a variety of life stress and illness situations. Emphasis on attitudes, insights, and abilities crucial to the appreciation, appraisal, and utilization of research in the health sciences. MENT HLTH COM

211.20. Perinatal-Pediatric Critique. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Ferketich

Critique of studies which reflect physiological or situational stressors in the high risk perinatal and pediatric patient. Course will facilitate the appreciation, appraisal and integration of research findings into clinical practice. PHYSIOL NURS

211.21B. Cardiopulmonary Res Critique. (3) § Sp. Prerequisite: Nursing 211A or consent of instructor. Lecture 2 hours. Lab 3 hours.

Stotts

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. PHYSIOL NURS

211.22B. Qlty Patient Care Res Eval. (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. PHYSIOL NURS

212. Clinical Research Methodologies. (3) § W, Sp. Prerequisite: Nursing 211A or consent of instructor. Lecture 2 hours. Lab 3 hours.

Dodd

Application of research methodology to clinical nursing questions: formulation of clinical questions, experimental and quasi-experimental design, instrumentation, introduction to data analysis, including statistical methods and computer usage. PHYSIOL NURS

213A. Meas & 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. PHYSIOL NURS

213B. Meas & 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. PHYSIOL NURS

214. Family Risk in Early Parenting. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Mercer

Physical and psychological factors affecting parenting, early parent-infant interactions, theories, and modes of assessing attachment in expected and unexpected outcomes, such as birth of premature or anomalous infant,

threat to mother's welfare, are explored with clinical data. FAM HLTH

215A. Community Health. (2-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. Lab 3 hours.

Oda

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. Survey of Health Status Research. (2-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Enrollment limited. Preference given to community health nursing specialist students.

Laffrey

Students will critically examine research on health status at the individual, group and societal levels. Emphasis is on the concept of health status, measurement methods, and implications of research approaches and findings for nursing practice. MENT HLTH COM

215C. Community Health Planning. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

Laffrey

Exploration of analytic planning models applicable to community health services. Utilization of the community as a basis for planning and delivery of health care. Emphasis is on the role of the community nurse in health planning. MENT HLTH COM

215D. Com Organization Strategies. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

Archer

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

216. Interventions for Work Stress. (2) § F. Prerequisite: Graduate standing. Seminar 2 hours.

Baldwin

Course will help to enable students to evaluate the recent research and current models of nursing work stress. From this base, students will critically select strategies for assisting and intervening in nursing stress situations. PHYSIOL NURS

217. Psychosocial Care of Children. (3) § 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 children and their family. Focus is directed to minimizing trauma and promoting growth. Concurrent practicum recommended. PHYSIOL NURS/FAM HLTH

218A. Care of Ill or Injured. (3-4) § F. Prerequisite: Nursing 276. Prior or concurrent enrollment in physiology or consent of instructor. Lecture 1 hour. Seminar 2 hours. Lab optional 3 hours for 4 units.

Stotts,

Dodd

Knowledge is organized around phenomena common to ill or injured individuals across the life span. Concepts such as stress, healing, clotting, infection, consciousness, pain and coping will be examined from a theoretical and clinical perspective. PHYSIOL NURS

218B. Care of Ill or Injured. (3-4) § W. Prerequisite: Nursing 276. Prior or concurrent enrollment in physiology or consent of instructor. Lecture 1 hour. Seminar 2 hours. Lab optional 3 hours for 4 units.

Dodd,

Stotts

Knowledge is organized around phenomena common to ill or injured individuals across the life span. Concepts such as starvation, ischemia, immobility, dyspnea, hypoxemia, body image and sexuality will be examined from a theoretical and clinical perspective. PHYSIOL NURS

218C. Current Therapeutics. (1-5) § F. Prerequisite: Physiology, Nursing 218A and 218B. Seminar 1-5 hours.

Stotts, C. West

Investigation of the theoretical basis of selected therapies commonly used with the ill or injured. Therapeutic aspects of interventions as well as side effects will be explored. Recent research will be used as the basis for discussion. PHYSIOL NURS

218D. Illness or Injury Rehabilitation. (2-3) § W. Prerequisite: Graduate standing. Nursing 218A and 218B. Seminar 2 hours. Lab optional 3 hours.

C. West

Examination of the theoretical basis for rehabilitation of patients following physical illness or injury. Nursing therapies which promote optimal adaptation and development are evaluated utilizing relevant research as a base. Clinical laboratory optional. PHYSIOL NURS

219. Psychiatric Assessment of Adults. (3) § W, Sp. Prerequisite: Nursing 227 or equivalent and consent of instructor. Seminar 2 hours. Lab 3 hours.

H. Wilson, Chafetz

Seminar is designed for graduate psychiatric nursing students to examine and discuss various theoretical approaches to assessment of behavior in adults. Laboratory will be used to synthesize and test material. MENT HLTH COM

220.01. Adv Nursing Research-MHCN. (3) § F, W, Sp. Prerequisite: Successful completion of the qualifying examination and/or consent of instructor. Seminar 3 hours.

B. Hall

A seminar which guides doctoral students in the design and conduct of research in specialty areas in cross-cultural and international nursing and mental health and community nursing. MENT HLTH COM

220.02. Adv Nursing Research-FHCN. (3) § F, W, Sp. Prerequisite: Successful completion of the qualifying examination. Seminar 3 hours.

Staff

A seminar which guides students in the design and conduct of research in specialty areas in family health care nursing. FAM HLTH
220.03. Adv Nursing Research-Physiol. (3) § F, W, Sp. Prerequisite: Successful completion of the qualifying examination. Seminar 3 hours. **Carrieri**

A seminar which guides students in the design and conduct of research in specialty areas in physiological nursing. PHYSIOL NURS
221A. Specialized Nursing Roles. (2-3) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab optional 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. Specialized Nursing Roles. (2-3) § W. Prerequisite: Nursing 211A or equivalent and consent of instructor. Lecture 2 hours. Lab optional 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

223A. Systems Analysis. (3) § Sp. Prerequisite: Consent of instructor. Lab 3 hours. Seminar 2 hours. **Tescher, B. Hall**

Selected general and social system theories are examined in relation to their contribution to the understanding of clinical nursing phenomena, particularly in the area of patient care. MENT HLTH COM

223B. Systems Intervention. (3) § Sp. Prerequisite: Nursing 223A and consent of in-

structor. Lab 3 hours. Seminar 2 hours.

B. Hall, Tescher
 Organizational and social systems theories are used to assess functional and dysfunctional aspects of health care organizations that may affect the delivery of nursing care. Case studies and clinical work are used to explore appropriate intervention strategies. MENT HLTH COM

224. Cognitive & Behavioral Theories. (2) § W, Sp. Prerequisite: Graduate standing. Seminar 2 hours. **Norbeck, Pothier**

Behavioral theory and Piaget's theory of cognitive development will be presented, and research related to these theories will be reviewed. The relationship of these theories to human behavior and to clinical application will be developed in lectures and seminars. MENT HLTH COM

225. Psychiatric Nursing Concepts Res. (3) § Sp. Prerequisite: Graduate standing. Lecture 2 hours. Lab 3 hours. **A. 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. 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 interrelationship of various cultural, psychosocial, and pathophysiological factors involved in continuing health problems. Field experience included. FAM HLTH

227. Psychiatric Conditions Theories. (2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **J. G. Lipson**

Lecture-seminar with emphasis on comparative study and analysis of selected biological, sociological and psychological theories

of major psychiatric conditions. Selected research included. MENT HLTH COM

228. Human Communication Research. (2-4) § F, W. Prerequisite: Graduate standing. Lecture 2 hours. Lab 3 hours. **A. Davis**

Review of communication studies relevant to nursing. Studies will be organized around specific major concepts in communication theory. Students will be expected to gain background communication theory from the extensive bibliography. MENT HLTH COM

229. Comparative Research Methods. (2) § W. Prerequisite: Enrollment in doctoral program or consent of instructor. One quarter of theory, Nursing 202A, 202B, 202C or 290.01, 290.02, 290.03 and research. Nursing 278 recommended. Seminar 2 hours. **Gortner**

Underlying assumptions as well as design, measurement, and analytic issues pertinent to nursing research will be compared for various research methods. The advantages and disadvantages of approaches such as historical, descriptive, correlational, epidemiological, experimental, and action research will be examined. FAM HLTH

230A. Legislative Processes. (2-4) § W, 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 policymaking. MENT HLTH COM

230B. Legislative Processes. (3) § Sp. Lecture 3 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 lob-

bying, systems management of governmental relations, role of research, and expertise in policymaking. MENT HLTH COM

231. Cardiopulmonary Pathophysiology. (2) § Sp. Prerequisite: Three units of organ system physiology at the graduate level. Lecture 2 hours. **Wold and Staff**

A study of cardiac and pulmonary pathophysiology applicable to nursing the critically ill adult patient. PHYSIOL NURS

232B. Dynamics of Leadership. (2-4) § W or Sp. Prerequisite: Nursing 232A or consent of instructor. Lecture 2 hours. Lab 0-6 hours. **Hendricks**

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. MENT HLTH COM

232C. Problems in Leadership. (2-4) § Sp. Prerequisite: Nursing 232A and 232B or consent of instructor. Lecture 2 hours. Lab 0-6 hours. **Staff**

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. MENT HLTH COM

233A. Visual Data Study of Human Behav. (3) § Sp. Prerequisite: One course in research methods. Graduate standing and consent of instructor. Lab 3 hours. Seminar 2 hours. **Highley**

The use of still photography in the study of human behavior as it relates to health care. Includes the history of photography's impact on social and health policy, and explores issues related to design, sampling, and content analysis. FAM HLTH

233B. Visual Data Analysis. (1-2) § F. Prerequisite: Nursing 233A and students using photographs in their research. Lecture 2 hours. **Highley**

Emphasis is placed on the content analysis of photographs used as data source in research. Criteria measures for analysis will be explicated through student's own data. FAM HLTH

234. Physiological Research Seminar. (3) § Sp. Seminar 3 hours. **Carrieri**

Evaluation of research in the student's area of specialization. Emphasis is on critique of the design, methodology, and findings. Synthesis of the evaluation of studies results in the identification of major research questions in the field. PHYSIOL NURS

235. Implications of Nursing in Aging. (2-4) § F, W or Sp. Lecture 2 hours. Lab 0-6 hours. **Takano, Frazier**

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. PHYSIOL NURS

236. Expectant Parent Group Education. (2-3) § Sp. Prerequisite: Consent of instructor. Lab 3 hours. Seminar 2 hours. **May**

Theoretical sessions related to methodology and techniques of conducting expectant parent education groups. Exploration of content relevant to concerns of expectant parents encompassing childbearing and early child rearing experiences. Concurrent practicum recommended, but not required. FAM HLTH

237. Health Assessment through Life. (3) § Sp. Prerequisite: Enrollment in the Nurse Practitioner Program. Lecture 2 hours. Lab 3 hours. **Staff**

Presentation of theoretical principles of health assessment throughout the life cycle. Topics to be covered include exploration of

methodologies of data gathering and data analysis essential to comprehensive health assessment of all age groups. Laboratory for testing and integration of theory. FAM HLTH

238A. Preschool Child Development. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab to be arranged. Enrollment limited. **Holaday**

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. Middle Childhood Development. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Enrollment limited. **Holaday**

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. **Savedra**

Exploration of relevant theory, literature, and research findings dealing with normal development during the adolescent period. FAM HLTH

239. Young & Middle Adult Development. (3) § Sp. Prerequisite: Graduate standing, Child Development, and consent of instructor. Lab 3 hours. Seminar 2 hours. **Mercer**

This seminar, using an anthropological, sociological, and psychological perspective, will cover developmental theory and research from young adulthood through the middle adult years. Current issues in young and middle adulthood will be discussed with an emphasis on implications for health care. FAM HLTH

240A. Family Primary Care I. (5) § F. Prerequisite: Enrollment in Family Nurse Prac-

itioner Program and Nursing 237. Lecture 5 hours. **McLain**

Theories, concepts and knowledge for comprehensive assessment and management of common health and illness conditions throughout the life cycle will be presented. Emphasis will be on primary care of the family unit. FAM HLTH

240B. Family Primary Care II. (5) § W. Prerequisite: Nursing 240A. Lecture 5 hours. **S. Carroll**

Theories, concepts, and knowledge for comprehensive assessment and management of selected episodic, stable chronic illness and related health conditions throughout the life cycle will be presented. Emphasis will be on primary care of the family unit. FAM HLTH

240C. Family Primary Care III. (5) § Sp. Prerequisite: Nursing 240A and 240B. Lecture 5 hours. **Bowe**

Theories, concepts, and knowledge for comprehensive assessment and management of special problems in family primary care will be presented. Emphasis will be on primary care of the family unit. FAM HLTH

241A. Primary Care Role Development. (1) § F. Prerequisite: Consent of instructor and concurrent enrollment in clinical residency. Seminar 1 hour. **Nilsen and Staff**

Critical analysis of issues and research related to collaboration in primary care. Emphasis will be on philosophy, interaction and role negotiation. Course is facilitated by Nursing and Medical faculty. FAM HLTH

241B. Primary Care Role Development. (1) § W. Prerequisite: Consent of instructor and concurrent enrollment in clinical residency. Seminar 1 hour. **Nilsen and Staff**

Critical analysis of issues and research related to collaboration in primary care. Emphasis will be on joint decision-making and

conflict resolution. Course is facilitated by Nursing and Medical faculty. FAM HLTH

241C. Primary Care Role Development. (1) § Sp. Prerequisite: Consent of instructor and concurrent enrollment in clinical residency. Seminar 1 hour. **Nilsen and Staff**

Critical analysis of issues and research related to collaboration in primary care. Emphasis will be on organization and process of care. Course is facilitated by Nursing and Medical faculty. FAM HLTH

242. Individual Psychother Modalities. (2) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. **Staff**

Seminar intended for graduate students in psychiatric nursing to examine and discuss theories and practice approaches of various individual psychotherapeutic modalities in current use. MENT HLTH COM

243. Group Psychother Modalities. (2) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2 hours. **O'Rourke**

A seminar intended for graduate students of psychiatric nursing to examine and discuss theories and practice of various group modalities in current use. MENT HLTH COM

244. Nursing Assessment of Neonate. (2-3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-3 hours. **Briscoe, Loper-Hunter and Staff**

Focus is on advanced history-taking and physical assessment of the neonate. Emphasis on the collection and interpretation of clinical data for the purpose of nursing management. PHYSIOL NURS

245. Self-Care in Nursing. (3) § W, Sp. Prerequisite: Consent of instructor. Lab 3 hours. Seminar 2 hours. **P. Underwood, B. Hall**

Course will critically review theories and research related to health care of the aged, mentally ill, and developmentally disabled in institutional setting, with an emphasis on

nursing practice that will promote health and self-care in this population. MENT HLTH COM

246. Parenting Deterrents. (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. PHYSIOL NURS

247.01. Issues in Health Care of Aged. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Willis**

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. Political Aspects of Aging. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Willis**

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.

249. Independent Study. (1-5) § F, W, Sp. Prerequisite: Consent of instructor. **Staff**

Individual study with emphasis on special problems in nursing. Students may select areas of study which are related to their area of interest or future goals.

250. Research. (1-8) § F, W, Sp. Prerequisite: Admission to doctoral study and consent of instructor. **Staff**

251. Cross-Cultural Nursing Research. (3) § F, W, Sp. Prerequisite: Nursing 211A or equivalent and consent of instructor. Seminar 3 hours. **A. Davis, Archer**

Seminars focus on theory and research in selected international health nursing problems. Emphasizes working with high-risk groups, examining situational stressors, adaptation, and coping strategies in transition, allocating scarce resources, and utilizing appropriate technology. MENT HLTH COM

252. Cross-Cultural Nursing Issues. (3) § F, W, Sp. Prerequisite: Consent of Instructor. Seminar 3 hours. **A. Davis, Archer**

Seminar examining selected international nursing issues including primary care, nursing education and nursing service, women's roles and patients' rights. MENT HLTH COM

253. Physical Assessment. (3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Enrollment limited. **K. Fitzgerald and Staff**

Course provides an advanced knowledge base for history-taking and assessment of the ill or injured. Clinical laboratory is required. PHYSIOL NURS

254.02. Fetal-Newborn Development. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **Loper-Hunter**

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. PHYSIOL NURS

255.02. Child Health Maintenance. (2-3) § F. 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. Common Pediatric Illness Mgmt. (4) § W. Prerequisite: Consent of instructor. Lecture 4 hours. **J. Lovett**

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. Transitions & Health. (3) § Sp. Seminar 3 hours. **Meleis**

Critical and analytical review of theories and research that links health of the individual and families to relocations and transitions. Emphasis on responses and coping with situational, developmental, health-illness, and sociocultural transitions. Nursing therapeutic theories will also be explored. MENT HLTH COM

257. Health of Aging Family Member. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours. **G. Doyle**

Course focuses on health promotion and maintenance of the older person within the family context. Exploration of applicable theories, concepts and principles. Special emphasis on physical, emotional and social resources for the frail elderly. FAM HLTH

258A. Family & Childbearing. (3) § F, Lab 3 hours. Seminar 2 hours. **May, Mercer**

Critical analysis of psychosocial and physiological factors as they impact on the family during pregnancy and childbirth. Emphasis on evolving maternal/paternal roles and tasks related to pregnancy, body image, sexuality, childbirth and parenting. FAM HLTH

258B. Family & Childbearing. (3) § W, Lab 3 hours. Seminar 2 hours. **Mercer, May**

Critical analysis of psychosocial and physiological factors as they impact on the family during childbirth and early parenting. Emphasis on transition to parenthood, parental and couple concerns, and issues in effecting change to provide optimal nursing care. FAM HLTH

259.01. Women's Health-Theory & Mgmt. (1-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-4 hours. Seminar optional 1 hour. **K. Patterson, Neeson**

Exploration of theories, concepts and knowledge necessary to maintain and promote women's 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

259.02. Women's Health-Special Problems. (1-4) § W. Prerequisite: Consent of instructor. Lecture 1-4 hours. Seminar optional 1 hour. **Neeson, K. Patterson**

Theory and management of bio-psychosocial deviations from normal in women before and during pregnancy, interconceptional period, and climacteric. Emphasis placed on critical analysis of research in metabolic, infectious, and functional disorders including collaborative management of women manifesting these disorders. FAM HLTH

259.03. Women's Health-Advanced Seminar. (2) § Sp. Prerequisite: Consent of instructor. Seminar 2 hours. **Neeson, K. Patterson**

An in-depth exploration of theoretical and management aspects of selected complications in obstetrics and gynecology applicable to the nurse practitioner role. FAM HLTH

260. Cultural Concepts in Hlth Care. (3) § F, W, Sp. Seminar 3 hours. **J. G. Lipson**

Introduction to basic concepts and issues in medical anthropology and transcultural nursing. Course provides opportunity to critically review research literature and discuss implications for nurses and other health care professionals. MENT HLTH COM

261. Computers in Nursing. (3) § F, W. Prerequisite: Consent of instructor. Lecture 3 hours. **Slichter**

Comparative analysis of potential effects on nursing of formalized patient and administrative information systems. Course will focus on critique of manual and computerized information systems in nursing. MENT HLTH COM

262. Attachment over the Life Span. (3-4) § W. Prerequisite: Enrollment in doctoral program. Lecture 2 hours. Field work 3-6 hours. **Mercer**

Course covers a critical analysis of interpersonal attachment theory during all phases of life and problems in the measurement of attachment. The student will develop a model to explain attachment in a specific situation or population. FAM HLTH

263A. Gerontological Long-Term Care. (3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour. **G. Doyle, Willis**

Course focus is on gerontological and chronic care nursing. Emphasis on selected frameworks used to assess and analyze relevant data. Impact of transitions within continuum of care upon clients and patients in institutional and community settings. Concurrent practicum is required. FAM HLTH

263B. Long-Term Restorative Nursing. (3) § Sp. Prerequisite: Nursing 263A. Consent of instructor. Lecture 2 hours. Seminar 1 hour. **G. Doyle, Willis**

Examination of restorative nursing care, including supporting principles, concepts, and theories. Exploration of prescribed nursing

care, outcomes and evaluations for various institutional and community settings. Emphasis is on goal achievement and independence of each individual. Concurrent practicum is required. FAM HLTH

263C. Quality Assurance in Health Care. (3) § F Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **H. A. Fields**

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. Soc Networks of the Mentally Ill. (2) § F Prerequisite: Graduate standing. Lecture 2 hours. **Norbeck**

Social network characteristics of psychiatric populations are examined in relation to patient functioning and well-being. Research methods and findings will be analyzed and critiqued. Intervention programs to enhance the social networks of the severely mentally ill will be discussed. MENT HLTH COM

265A. Prog Planning Research Methods. (3) § F, W. Prerequisite: 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 problem definition and instrument construction. MENT HLTH COM

265B. Prog Planning Research Methods. (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 imple-

menting the evaluation. Focus is on data collection, analysis, and reporting. MENT HLTH COM

267. Ethical Dilemmas & Nursing Prac. (2) § F, W. Prerequisite: Graduate standing. Lecture 2 hours. **A. Davis**

Exploration of selected ethical theories and dilemmas in health care and nursing practice. Focus is on selected case studies depicting ethical dilemmas in nursing practice, nursing research, and health policy. MENT HLTH COM

268. Psychiatric Liaison Nursing. (2) § F, W, Sp. Prerequisite: Nursing 211A and enrollment in the child or adult psychiatric nursing specialty tracks, Department of Mental Health and Community Nursing, or consent of instructor. Lecture 2 hours. **Chafetz**

Course reviews the emerging literature on psychiatric liaison nursing. Reports on roles of psychiatric nurses in medical settings will be critically analyzed, as well as clinical studies from the area of general hospital psychiatry. Comparative models of practice are discussed. MENT HLTH COM

269. Historical & Contemporary Issues. (2-3) § F, W, Sp. Lecture 2 hours. Seminar optional 1 hour. **B. Hall**

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. Adult Health Assessment. (4) § SS2. Prerequisite: Consent of instructor. Lecture 4 hours. **Burgel**

Course introduces assessment techniques for determining health status of adults. Focuses upon collection and interpretation of clinical data derived from the history and physical examination. Emphasizes identification of actual potential stressors as well as adequate responses. MENT HLTH COM

271A. Adult Primary Care Management. (1-4) § F Prerequisite: Nursing 270 or consent of instructor. Lecture 1-4 hours. **S. Becker**

Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of the nursing process into clinical decision-making. MENT HLTH COM

271B. Adult Primary Care Management. (1-4) § W. Prerequisite: Consent of instructor. Lecture 1-4 hours. **Staff**

Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of the nursing process into clinical decision-making. MENT HLTH COM

271C. Adult Primary Care Management. (2-4) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Independent projects optional for 3-4 units. **Helmuth, D. D. Stanford**

Introduces primary health care concepts essential to management of common physical illness in adults. Emphasis is on promotion of optimum client adaptation, selection of clinical interventions congruent with clients' adaptive potential, and incorporation of nursing process into clinical decision-making. MENT HLTH COM

272. Adult Prospective Health Care. (2) § Sp. Lecture 2 hours. **Burgel**

Introduction to principles of health maintenance care for adults including health risk appraisal and problem identification. Emphasis on health risks related to age, sex, race, health habits, history of individual and family illness. MENT HLTH COM

273. Concepts in Occupational Health. (3) § F, W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1 hour. **Resnik, Lessor**

The structure and organization of the occupational health system, including regulatory control mechanisms for worker protection, labor management relations, and costs are analyzed. Emphasis is on planning, development, and evaluation of occupational health programs. MENT HLTH COM

274. Health Hazards of Workplace. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **L. Ray**

This is a prevention-focused course for nurses and other health professionals emphasizing recognition of chemical, physical, biologic and ergonomic hazards of work, identification of appropriate environmental monitoring methods, selection of health surveillance measures, and use of health promotion techniques. MENT HLTH COM

275A. Physiological Basis for Nursing. (1-3) § F, W. Lecture 1-3 hours. **Lindsey, C. Robinson**

Study of physiological theories applicable to nursing. Focus is on normal cell functions and nervous and endocrine systems functions which serve as a basis for nursing practice. PHYSIOL NURS

275B. Physiological Basis for Nursing. (1-3) § W, Sp. Lecture 1-3 hours. **C. Robinson, Preisig**

Study of physiological theories applicable to nursing. Focus is on normal function of gastrointestinal, cardiovascular, renal and pulmonary systems which serve as a basis for nursing practice. PHYSIOL NURS

275C. Neonatal Pathophysiology. (2) § Sp. Lecture 2 hours. **Loper-Hunter, Briscoe and Staff**

Study of the major disease processes encountered in the neonate and their relevance

to nursing practice. The course will address etiology, manifestations and treatment during the acute phase of illness. PHYSIOL NURS

276. Theoretical Perspectives in Nurs. (3-4) § F, W, Sp. Prerequisite: Consent of instructor. Lab 3 hours. Seminar 3 hours. **Lovejoy**

Comparative study of selected nursing conceptions and theories and their implications for nursing practice, curriculum development and research. Critique of theories will address key questions relevant to nursing goals, intervention focus and outcomes, recipient of nursing, and social significance. PHYSIOL NURS

277. Illness Management Research. (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. Nursing Science History & Philos. (3-4) § F. Prerequisite: D.N.S. student standing or consent of instructor. Lecture 3 hours. Seminar optional 1 hour. **Gortner**

An analysis of the history and development of nursing science and research in the United States, addressing the origins of scientific questions and methods in nursing, and the debates currently ongoing regarding definition, credibility, design, conduct, and outcomes of research. FAM HLTH

279A. Family Stress & Coping. (2-3) § F. Lecture 2 hours. Seminar optional 1 hour. **Nolan, Ventura**

Analysis of selected family concepts, stress factors and coping strategies in developmental

and situational events in the family life cycle. FAM HLTH

279B. Family Stress & Coping Research. (3-5) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 1-3 hours.

Ventura

Seminar is designed to critically examine concepts of family health, stress and coping, and to develop skills in research design and analysis related to the family as a unit. FAM HLTH

279C. Family Stress & Coping Therap. (2-3) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar optional 1 hour.

Nolan, Ventura, McLain

Presentation of theories and research relative to care of the family as a unit. Course content focuses on methods of assessment, intervention and evaluation of family stress factors, resources and coping behaviors, as well as models of family nursing. FAM HLTH

280. Sex 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 & 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. Pregnancy & Early Motherhood. (3-4) § W. Prerequisite: Enrollment in doctoral program. Lecture 2 hours. Field work 3-6 hours.

Mercer

An analysis of pregnancy and early motherhood including the relationship of physiological and developmental to psychological and social phenomena. Students will develop a model to explain a phenomenon occurring during pregnancy or early motherhood. FAM HLTH

283. Prev Models in Child Mental Hlth. (2) § F, W. Lecture 2 hours.

Norbeck

Exploration of prevention theory, mental health needs of children, and a model of delivery of mental health services through the collaboration of mental health specialists and primary health care providers. Analysis of theoretical bases for various intervention strategies. MENT HLTH COM

284. Adolescent Health Care. (2) § F. Prerequisite: Consent of instructor. Seminar 2 hours.

Savedra, Dole

Examination and analysis of theory and research related to health care of adolescents and their families in a variety of settings. Emphasis will be on adaptation to selected stresses including trauma, chronicity, hospitalization, terminal illness and disability. FAM HLTH

285A. Psychiatric Research Methods. (2) § F. Lecture 2 hours.

A. Davis

Course is part of a three-quarter sequence designed to teach research methods for utilization in psychiatric mental health settings. Clinical studies in mental health settings will be analyzed regarding research design. Students will develop their own clinical research. MENT HLTH COM

285B. Psychiatric Research Methods. (2) § W. Lecture 2 hours.

P. Underwood

Course is part of a three-quarter sequence designed to teach research methods for uti-

lization in psychiatric mental health settings. Clinical studies in mental health settings will be analyzed regarding research design. Students will develop their own clinical research. MENT HLTH COM

285C. Psychiatric Research Methods. (2) § Sp. Lecture 2 hours.

J. G. Lipson

Course is part of a three-quarter sequence designed to teach research methods for utilization in psychiatric mental health settings. Clinical studies in mental health settings will be analyzed regarding research design. Students will develop their own clinical research. MENT HLTH COM

286A. Research in Stress & Coping. (3-4) § F. Prerequisite: Consent of instructor or doctoral-level theory development. Lecture 3 hours. Proposal development optional one unit.

Benner

Course critically analyzes the relationship of stress and coping to health and illness. Examines theoretical and empirical links between coping strategies and therapeutic interventions. Emphasis is on research programs. PHYSIOL NURS

286.01B. Stress & Coping-Cardiopulmonary. (3-4) § W. Prerequisite: Nursing 286A. Lecture 3 hours. Proposal development optional one unit.

Benner

Course examines the current nursing, behavioral, medicine, and epidemiological research relating stress and coping to the etiology and course of cardiopulmonary disease. Theoretical and empirical links between coping resources, strategies, and helping interventions are also included. PHYSIOL NURS

286.02B. Stress & Coping-Cancer. (3-4) § Sp. Prerequisite: Nursing 286.01B. Lecture 3 hours. Proposal development optional one unit.

Benner

Course examines the current nursing, behavioral, medicine, and epidemiological research relating stress and coping to the etiol-

ogy and course of cancer. Theoretical and empirical links between coping resources, strategies, and helping interventions are also included. PHYSIOL NURS

287A. Dimensions of Leadership. (3) § F. Prerequisite: Consent of instructor. Lecture 3 hours.

Oda, Hendricks

A critical review and analysis of concepts, theories, principles and research studies relative to leadership and adjunct processes such as decision-making, communication, change and conflict resolution. MENT HLTH COM

287B. Organizational Theory & Research. (3) § W. Prerequisite: Consent of instructor. Seminar 3 hours.

Wellons, Flood

A critical review and analysis of major organizational theories and research. Emphasis is on open system theories to examine characteristics of health service organizations and the role of management. MENT HLTH COM

287C. Behavior in Organizations. (3) § Sp. Prerequisite: Nursing 287B and consent of instructor. Seminar 3 hours.

Wellons, S. J. Weiss

Examination of the characteristics, causes and consequences of behavior and experiences of individuals as they function in organizations. Emphasis is on personnel management and other managerial functions. MENT HLTH COM

288. Nursing Administration Seminar. (2) § F. Prerequisite: Consent of instructor. Seminar 2 hours.

S. J. Weiss

A seminar for doctoral students to analyze theories and models of administration relative to executive roles in academic and service settings. MENT HLTH COM

289. Labor Relations. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours.

W. Neff

Critical analysis of organization and exchange theories relative to managing employer-employee relations in health care and

educational settings. Emphasis is on labor movement, labor legislation and regulation, contract negotiations and grievance procedures. MENT HLTH COM

290.01. Family Health Theory. (3-4) § F. Prerequisite: Enrollment in D.N.S. or other doctoral program. Lab 0-3 hours. Seminar 3 hours.

Savedra

Comparative analysis of classical theories and methodologies for deriving a theory base for family health nursing. Emphasis is on interactional, role, structural-functional, and systems theories. FAM HLTH

290.02. Family Health Theory. (3-4) § W. Prerequisite: Nursing 290.01 or consent of instructor. Enrollment in doctoral program. Seminar 3 hours.

Savedra

Comparative analysis of classical theories and methodologies deriving a theory base for family health nursing. Emphasis is on developmental, psychoanalytic, exchange, cognitive dissonance, conflict and field theories. FAM HLTH

290.03. Family Health Theory. (3-4) § Sp. Prerequisite: Nursing 290.01 and 290.02 or consent of instructor. Enrollment in doctoral program. Seminar 3 hours.

Savedra

Individual development of a framework or model for study of a specific problem in family nursing. Emphasis is on critique of models generated by students and their applicability to research problems. FAM HLTH

291A. Pediatric Pathophysiology. (1-2) § W. Lecture 1-2 hours.

Ferketich

A study of pathophysiology applicable to pediatric nursing. Emphasis is on fluid and electrolyte imbalance, and hemopoietic, nervous, and endocrine system dysfunctions and their implications for nursing care. PHYSIOL NURS

291B. Pediatric Pathophysiology. (1-2) § Sp. Lecture 1-2 hours.

Ferketich

A study of pathophysiological theories applicable in pediatric nursing. Emphasis is on dysfunctions in the gastrointestinal, cardiovascular, renal, and pulmonary systems and their implications for nursing care. PHYSIOL NURS

292A. Maternal Physiology. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours.

Mayberry

Review and analysis of advanced physiologic and pathophysiologic processes of pregnancy and their impact on the maternal-fetal unit as a basis for nursing practice and research. Emphasis is on reproductive and endocrine systems affecting adaptation and development during pregnancy. PHYSIOL NURS

292B. Maternal Physiology. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours.

Mayberry

Review and analysis of advanced physiologic and pathophysiologic processes of pregnancy as a basis for practice and research. Emphasis is on cardiovascular, hematologic, neuroendocrine, and renal systems affecting adaptation and development during pregnancy. PHYSIOL NURS

293. Nursing Serv & Educ Evaluation. (3) § F, W. Prerequisite: Consent of instructor. Seminar 3 hours.

Holzemer

Case studies are utilized to demonstrate the activity of program evaluation in nursing service and education. JCAH and NLN criteria are examined. Evaluation designs, instrumentation, data utilization, and political components of evaluation for policy decision-making are critically analyzed. PHYSIOL NURS

294. Data-Gathering Methods. (3) § W, Sp. Prerequisite: One course in research design. Seminar 3 hours.

Holzemer

Course will focus on selection and construction of data-gathering tools in nursing research. Validity, reliability and utility are discussed. Computer coding and conducting a pilot study are included. PHYSIOL NURS

295. Quasi-Experimentation in Res. (3) § F, Sp. Prerequisite: Consent of instructor. Seminar 3 hours. **Holzemer**

Seminar discussing validity issues of quasi-experimentation in nursing research. Designs examined in nursing literature include non-equivalent control group designs, interrupted time-series designs, passive observation, and randomized experiments. PHYSIOL NURS

296. Teaching Theories & Evaluation. (4) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Seminar 2 hours. **Abu-Saad**

Analysis of principles, theories and research in the field of teaching with emphasis on teaching strategies and evaluation methods applicable to clinical and educational settings. A microteaching format is incorporated for application and evaluation of selected teaching interactions. PHYSIOL NURS

297. Financial Management. (3) § W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **Staff**

Critical analysis and synthesis of basic economic theories and accounting principles and their relationship to financial planning and control in health care and educational settings. Critiques nurse-manager's roles and responsibilities in fiscal management of these settings. MENT HLTH COM

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

For graduate students engaged in writing the thesis for the master's degree or taking a comprehensive examination required for the master's degree.

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

For graduate students engaged in writing the dissertation for the Doctor of Nursing Science (D.N.S.) degree.

401. Teaching Residency. (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours. **Staff**

Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

402. Administration Residency. (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours. **Staff**

Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

403. Consultation Residency. (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours. **Staff**

Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

404. Clinical Residency. (4-12) F, W, Sp. Prerequisite: Consent of instructor. Lab 12-36 hours. **Staff**

Opportunity to apply and evaluate theories, concepts, and skills in the work setting under the supervision of a preceptor.

404.06A. Pediatric Residency. (5) F. Prerequisite: Consent of instructor. Lab 15 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. Pediatric Residency. (5) W. Prerequisite: Nursing 404.06A and consent of instructor. Lab 15 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

404.06C. Pediatric Residency. (5-6) Sp. Prerequisite: Nursing 404.06A, 404.06B and consent of instructor. Lab 15-18 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. Mental Hlth & Com Nurs Practicum. (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. Family Hlth Care Nurs Practicum. (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. Physiological Nursing Practicum. (1-8) F, W, Sp. Prerequisite: Consent of instructor. Lab 3-24 hours. **Staff**

Opportunity to apply theory in clinical practice to further develop skills and to extend clinical expertise in selected aspects of physiological nursing. Guided clinical laboratory experience is designed to develop mastery of advanced skills. PHYSIOL NURS

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.

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.

Nutrition

130B-C. Human Nutrition. (1-1) W, Sp. Lecture 1 hour. **Silverstein**

An introduction to the basic principles of human nutrition. Subject material is related to the maintenance of normal nutrition throughout one's life span, and emphasis is on normal nutrition and its preventive role in maintaining general health, specifically oral health. GEN DENT

160. Nutrition in Dental Hygiene. (2) F. Lecture 2 hours. **J. Levine**

Review of biochemical principles of nutrition related to development and maintenance of oral tissue, and the interrelationship of foodstuffs. Emphasis will be on practical application of nutritional assessment and counseling for dietary/behavioral change. PERIODONT

180. Counseling for Prev 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

200. Maternal & Infant Nutrition. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2-4 hours. **Gutierrez**

Application of current maternal nutrition research to train students in working with other health professionals to offer interdisciplinary maternal nutrition counseling in the prevention of low birth weight. Emphasis will be on cross-cultural factors in assessment and counseling. FAM HLTH

201. Principles of Diet Therapy. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Gutierrez**

Concepts of dietary modifications as required in the prevention and treatment of major disease entities. Emphasis will be on current diet therapy research and on clinical approaches useful in practice. FAM HLTH

202. Counseling for Families. (3) § F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. **Gutierrez**

Theory and practice in the interpretation of current concepts, principles, and research in nutrition for family counseling. Emphasis will be on cultural dietary patterns. FAM HLTH

Obstetrics, Gynecology and Reproductive Sciences

110. Ob Gyn Core Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 132A-B-C. **Jaffe and Staff**

Basic principles and fundamental techniques in obstetrics and gynecology, including the psychiatric aspects of obstetrics and gynecology, are discussed in a series of seminars, case discussions, and teaching clinics. Students gain practical experience in clinics, wards, delivery room, and operating room under direct supervision. OB GYN RS

140.01. Advanced Ob Gyn Clerkship—C. (1½ per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110, Pediatrics 110

and Medicine 110 or Surgery 110, or consent of instructor. **C. Levinson**

Students will have responsibilities of full-time acting residents on both the obstetrical and gynecological services. OB GYN RS

140.02A-B-C-D-E-F-G. Advanced Clinical Clerkships. (1½ per week) Su, F, W, Sp. Prerequisite: 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, K, VMC, NRM. OB GYN RS

140.06. Advanced Gyn Clerkship—SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110, Pediatrics 110 and Medicine 110 or Surgery 110, or consent of instructor. **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 RS

140.07. Advanced Gyn Clerkship—UC. (1½ per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110, Pediatrics 110 and Medicine 110 or Surgery 110, or consent of instructor. **Braga, R. Glass**

The clerk functions in the role of an acting resident on the gynecology service. Responsibilities are primarily on the inpatient service and will include both surgical and nonsurgical aspects of gynecologic oncology, endocrinology, infertility, and general gynecology. OB GYN RS

140.08. Ob Gyn Preceptorship. (1½ per week) Su, F, W, Sp. Prerequisite: Obstetrics and Gynecology 110 and consent of instructor and chairperson of the department. **Staff**

Clinical experience in a subspecialty area or general obstetrics and gynecology under the direction of a member of the faculty. OB GYN R S

150.01. Research in Ob Gyn & Repro Sci. (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

170.01. Sociocultural Aspects of Nutr. (1) W. Lecture 1 hour. Seminar 1 hour.

Abrams

A survey of the social, cultural and psychological factors that determine food behavior in the individual. Lectures, discussion and readings will identify barriers to healthy food patterns. Brief written assignments and class discussions will develop practical approaches to the provision of nutritional care. OB GYN R S

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

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

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

A laboratory research project under direction of a member of the faculty with the approval of the chairperson of the department. OB GYN R S

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

Seminar presentations in areas of current interest in reproductive endocrinology by guest speakers and members of the Reproductive Endocrinology Center. Students will be required to submit a term paper. Course may be repeated for credit. OB GYN R S

230. Reproductive Endocrinology. (2) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Minimum of 4 students. **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

234. Electron Microscopy Techniques. (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 Seminar. (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 & 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

180. Special Crown & Bridge Problems.

(1) W. Prerequisite: Consent of instructor. Lecture 1 hour. Enrollment limited. **Pavone**

Course covers the diagnosis and treatment of occlusal disorders of the adult dentition. The etiology of functional disturbances, analysis of occlusal relationships of the opposing arches, and a rationale for therapy will be presented and discussed. RESTOR DENT

Operative Dentistry

109. Clinical Operative Dentistry. (0-11) F, W, Sp. Prerequisite: Third-year standing and satisfactory completion of all second-year courses. Clinic variable. **Braly**

Clinical instruction in the discipline of operative dentistry, including restorations with dental amalgam, cast gold and gold foil. RESTOR DENT

180. Advanced Operative Theory. (1) F. Prerequisite: Operative Dentistry 130A-B-C. Lecture 1 hour. **M. Stark**

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 Theory. (1) W. Prerequisite: Operative Dentistry 180. Lecture 1 hour. **D. Knapp**

Continuation of Operative Dentistry 180. RESTOR DENT

180.02. Advanced Operative Theory. (1) Sp. Prerequisite: Operative Dentistry 180.01. Lecture 1 hour. **D. Knapp**

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 Proc. (1) F, W, Sp. Prerequisite: Open to fourth-year students with approval of the chairperson 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 electrology. RESTOR DENT

189.01. Adv Clinical Operative Dentistry. (0-25) F, W, Sp. Prerequisite: All previous courses in operative dentistry curriculum sequence. Clinic variable. **Schuchard**

Continuation of clinical experience at the level of Operative Dentistry 109. RESTOR DENT

189.02. Adv Clinical Operative Dentistry. (0-4) Sp. Prerequisite: Approval of the chairperson 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. (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 chairperson 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 include lectures and clinical experience in the diagnosis and care of eye diseases.

140.01A. Advanced Ophthalmology Clkshp—UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110 or consent of instructor. **O'Donnell**

Students will serve as subinterns on the ophthalmology wards. They will work up and present patients, and attend surgery and postoperative clinics. This is an intensive clerkship where students will be on twenty-four hour call the entire time. OPHTHALMOL

140.01B. Advanced Ophthalmology Clkshp—UC. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **O'Donnell**

Students will observe, work up and present ophthalmology outpatients at the Eye Clinic. They will attend department rounds and conferences. OPHTHALMOL

140.02. Off-Campus Clerkship. (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. OPHTHALMOL

140.03. Adv Ophthalmology Clkshp—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. OPHTHALMOL

140.04. Adv Ophthalmology Clerkship—L. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **H. B. Cohen**

Clinical observation of patients in the clinics, wards, and surgery at L. OPHTHALMOL

140.05. Adv Ophthalmology Clerkship—VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **Whitten**

Under close supervision, students are involved in the clinical observation of patients in the Eye Clinic, on the wards and in surgery, and participate in departmental conferences. Main objective of the course is to enable students to perform a complete eye examination. OPHTHALMOL

140.06. Adv Ophthalmology Clerkship—VA. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **Stanley**

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

150.02. Ophthalmology Research. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor and chairperson of the department. **S. Kramer**

A research project under the direction of a member of the faculty carried out in the Department of Ophthalmology. OPHTHALMOL

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

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

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

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

400. Staff Conference. (1) F, W, Sp.**S. Kramer**

Residents prepare and present diagnostic and therapeutic problem cases. Discussion by faculty and visitors follows. Residents also present papers on various aspects of medicine and ophthalmology, which are discussed by faculty members. OPHTHALMOL

401. Staff Conference. (1) F, W, Sp. Prerequisite: First- and third-year residents.**S. Kramer**

Conferences include grand rounds and case presentations of hospital patients, review of recent literature in ophthalmology, and assigned reading with required reports. OPHTHALMOL

402. Special Topics Seminar. (6) F, W, Sp.**S. Kramer**

Seminars include didactic lectures in practical work covering pathology, neuro-ophthalmology, uveitis, physiological optics, refraction, ocular motility, glaucoma, and microbiology. OPHTHALMOL

403. Basic Ophthalmologic Science. (6) Su. Required for first-year residents.**S. Kramer**

Didactic lectures and demonstrations cover the basic sciences as applied to ophthalmology. These include anatomy, histology, biochemistry, physiology, and pharmacology. OPHTHALMOL

450. Clinical Ophthalmology. (1½ per week) Su, F, W, Sp.**M. Drake**

Residents, under supervision, are responsible for patients in the Eye Clinic. First-year residents assist in eye surgery and the Eye Bank program. Specialty clinics include external diseases, extraocular muscles, medical ophthalmology, ophthalmoscopy, refraction, cataract, glaucoma, neuro-ophthalmology, plastic surgery, and tumor. OPHTHALMOL

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. OPHTHALMOL

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. OPHTHALMOL

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 chairperson of the department and the dean. OPHTHALMOL

457. Clinical Ophthalmology. (1½ per week) Su, F, W, Sp.**PH A. Schwartz, STM R. N. Shaffer, Schatz,****CHS, SRM Rathbun, RDMC T. Moore**

Residents or fellows, under supervision, are responsible for patient care, including diagnostic studies and treatment of medical eye care, diagnosis, surgery, and follow-up treatment of surgical eye cases. OPHTHALMOL

490. Clinical Ophthalmology. (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. OPHTHALMOL

Oral Diagnosis**109. Clinical Oral Diagnosis.** (1-3) SS, F, W, Sp. Prerequisite: Third-year standing. Clinic 30-90 hours.**Braly and Staff**

Clinical instruction on an individual basis in area of baseline education and comprehensive treatment planning as part of patient care activities in the dental clinics. Credit is assigned on the basis of time spent performing diagnostic procedures on assigned clinic patients. GEN DENT

109.01. Oral Diagnosis & Roentgenology. (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.**S. Eakle**

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

189.01. 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. Clinical Oral Medicine.** (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

121. Introduction to Medicine. (1) Sp. Prerequisite: Anatomy 117A-B and 118, Biochemistry 110A-B, Microbiology 126A and 126B, Pharmacology 126B-C, and Physiology 110. Lecture 1 hour.**Beirne, Zier**

Introduction to clinical medicine for dental students. Pathophysiology and differential diagnosis of disease will be discussed. Emphasis will be placed on ways that medical diseases influence clinical care of dental patients. ORAL MED

126. Introduction to Oral Biology. (5) F. Prerequisite: Anatomy 118. Lecture 4 hours. Lab 4 hours.**Merrell 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) W. Prerequisite: Oral Medicine and Hospital Dentistry 126. 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. Caries, Plaque & 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 for Dent Hygiene. (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 Disease. (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. ORAL MED

171. Advanced Oral Medicine. (2) F, W, Sp. Prerequisite: Oral Medicine and Hospital Dentistry 126 and consent of instructor. Seminar 2 hours.**Christie**

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-C. Oral Immunology & Immunopath. (2-2-2) F, W, Sp. Prerequisite: Consent

of instructor. Lecture 2 hours.

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 re-evaluated in the light of current research advances. Specific medical knowledge is related to patient care. ORAL MED

181. Forensic Odontology. (1) F. Prerequisite: Fourth-year standing and consent of instructor. Lecture 1 hour.**T. L. Green**

Identification by means of dental evidence, known as forensic odontology. Course in-

cludes 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. Intro to 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. Clinical Oral Dentistry. (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. Adv General Dentistry Clerkship. (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. (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. (1) § Su, F, W, Sp. Lecture 1 hour. **Newbrun and Staff**

Principles and methods employed in oral biology, such as radioisotope techniques, spectroscopy, chromatographic techniques, use of animal models, cell fractionation and enzyme purification, methods in cell mediated immunology, antibody quantitation, immunomorphology, antibiotic sensitivity testing and indices for quantitating dental diseases. ORAL MED

206. Oral Medicine Seminar. (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 Pathology. (1-4) § F, W, Sp. **S. Silverman**

Advanced considerations in the field of histopathology. Applications of newer tech-

niques 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-C. Oral Immunology & Immunopath. (2-2-2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **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. Connective Tissue Biology. (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. Oral Biology Seminar. (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**

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. Teaching Practicum. (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

400. Maxillofacial Prosthodontics. (0-1) F, W. Lecture 1 hour. **Zlotolow**

Course is designed to acquaint residents and fellows with the 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. ORAL MED

406. Selected Topics. (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; interprets results, prescribes treatment, and follows 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. **Staff**

Participation in the Temporomandibular Joint Clinic applying knowledge of history-taking and differential diagnosis; utilizes such diagnostic technics 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. Intro to Clinical Radiology. (0-1) SS, F, W, Sp. Prerequisite: Oral Diagnosis 129 and Oral Radiology 121. Lab rotation 24 hours. **Kircos**

Clinical experience in full-mouth radiography, emergency radiography, laminagraphy, panoramic radiography, darkroom technique, and quality control. Application of anatomy, pathology and previous didactic experience in radiology in interpreting radiographs and in establishing differential diagnosis. GEN DENT

109.02. Clinical Rotation in Radiology. (0-1) F, W, Sp. Prerequisite: Oral Radiology 121 and 109.01. Clinic and seminar. **Kircos and Staff**

Clinical experience and small group instruction are provided in oral radiology at the advanced predoctoral level. GEN DENT

121. Radiographic Interpretation. (1) F. Lecture 1 hour. **Kircos**

An introduction to the fundamentals of radiographic interpretation, some of the basic physics of X-ray generation, and radiation biology. GEN DENT

131. Radiographic Interpretation. (1) Sp. Prerequisite: Oral Radiology 121. Lecture 1 hour. **Kircos**

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 Dent Hygiene. (2) W. Lecture 2 hours. **Kircos**

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. X-Ray Technique. (1) W. Lab 3 hours. **Kircos**

A course in intraoral X-ray technique including instruction in the long cone paralleling method and practice on mannequins and skulls. GEN DENT

169. Intraoral & Panoramic Radiography. (1) F. Prerequisite: Oral Radiology 150 and 159. Clinic 3 hours. **Kircos**

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. (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. For senior rotation, student must have passed Oral Surgery 120, 130A, 130B, 130C, 131 and 132 or have consent from the division chairperson. Clinic variable. **Staff**

Students learn to recognize and treat common dental and medical emergencies; perform routine exodontia and minor oral sur-

gical procedures; assist on major procedures in operating room setting; utilize common techniques of pain and anxiety control; assist with admission, work-up and discharge of hospital patients. ORAL MED

120. Local Anesthesia. (½) Sp.

R. A. Smith, Beirne, N. Gordon

Course covers local anesthetics and techniques as they pertain to the dentition and oral cavity. ORAL MED

130A. Dentoalveolar Surgery. (1) SS. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture and seminar. **N. Gordon, R. A. Smith, Beirne**

An introduction to the basic principles of exodontia, dentoalveolar surgery, postoperative care, hemorrhage control, and management of common complications. ORAL MED

130B. Pain & Anxiety Control. (1) F. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture 1 hour. **N. Gordon, R. A. Smith, Beirne**

A didactic course outlining the basic principles and techniques of pain and anxiety control in the dental office. Emphasis is on nitrous oxide and oxygen and intravenous sedation. ORAL MED

130C. Diagnosis & Treatment of Pain. (1) W. Prerequisite: Anatomy 117A-B and Microbiology 126A-B. Lecture 1 hour.

R. A. Smith, N. Gordon, Ware

A didactic course covering current advances in the field of pain and a variety of topics such as physical evaluation of the pained patient, temporomandibular joint dysfunction, myofascial pain, and neuralgic pain. ORAL MED

131. Oral and Maxillofacial Surgery. (1) Sp. Prerequisite: Oral Surgery 130A, 130B and 130C. Lecture 1 hour. **R. A. Smith, N. Gordon, Ware**

Procedural skills and academic knowledge the general dentist should be familiar with: includes the treatment of developmental deformities of the jaws, infections, temporomandibular joint, fractures of the jaws and contiguous structures, preprosthetic surgery, and osteomyelitis. ORAL MED

132. Patient Evaluation in Med Emer. (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. Orthognathic Surgery Seminar. (0-3) F, W, Sp. Prerequisite: Enrollment in oral surgery residency or general practice residency program. Conference 0-3 hours.

Ware and Staff

Residents will participate in evaluation and defining treatment options for patients with facial and dental deformities. ORAL MED

174. Oral Surgery Seminar. (1) F, W, Sp. Prerequisite: Limited to interns and residents. Seminar 1 hour. **Ware and Staff**

Seminar includes presentation of case studies, literature review, clinical pathology presentations, and occasional guest lectures. ORAL MED

175. Advanced Clinical Oral Surgery. (1½ per week) Su. Prerequisite: Limited to oral

surgery interns. Hospital and clinic 40 hours. **Ware and Staff**

Interns and residents, under supervision, are responsible for preparation of case records, laboratory work, preoperative patient preparation, attendance at surgery, postoperative care, and attendance at follow-up clinics. In addition, senior residents have certain administrative, teaching and clinical responsibilities. ORAL MED

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

Staff

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

489.01. Clinical Oral Surgery. (1) F, W, Sp. Prerequisite: Enrollment in dental internship program. Clinic ½ day. **R. A. Smith**

Course is designed to teach the dental intern exodontia procedures under close supervision in the oral surgery clinic. The trainee takes responsibility for care of the oral surgery patient including preoperative evaluation, surgery planning, and postoperative care. ORAL MED

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. Boyd**

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 included. GR DEVEL

121. Intro to Growth & Development. (1) Sp. Lecture 1 hour. **Isaacson**

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 Techniques. (1) SS. Lecture 1 hour for six weeks. Lab 3 hours for six weeks. **Quinn**

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. (0-3, 0-3) F, W. Prerequisite: Orthodontics 121. Lecture 2 hours F; 1 hour W.

Yoshikawa

Recognition and treatment of the problems most commonly seen by the general practitioner. GR DEVEL

160. Principles of Orthodontics. (0-3) Sp. Lecture 0-3 hours. **E. West and Staff**

A discussion of recognition, etiology, and principles of orthodontics for the dental hygienist. GR DEVEL

170A-B-C-D-E. Fundamentals of Orthodontics. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1, SS2. Lecture 0-3 hours. **E. West**

Classification, etiology, and diagnosis of malocclusion. Study of the dentition and the relationships of dental and cranial structures. GR DEVEL

171B-C. Orthodontics in Periodontic Prac. (0-3, 0-3) W, Sp. Prerequisite: Consent of instructor and enrollment in a postdoctoral specialty program. Lecture 0-3 hours. **E. West and Staff**

Course includes orthodontic principles and technics that are applicable in a periodontic practice. GR DEVEL

171.05A-B-C-D-E. Growth & Development. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1,

SS2. Prerequisite: Enrollment in orthodontics program. Lecture 0-3 hours. **Isaacson**

Orthodontic applications of basic craniofacial growth and development. GR DEVEL

172.02A-B-C-D-E. Supervised Research. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1, SS2. Lecture 0-3 hours. **Baumrind and Staff**

Participation in group and individual clinical investigations including experience in hypothesis generation, sampling, measurement, data acquisition, and data analysis. GR DEVEL

173A-B-C-D-E. Orthognathic Surgery Conference. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in orthodontics residency program. Lecture 0-3 hours. **Litt and Staff**

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-D-E. Diagnosis & Treatment Planning. (0-5, 0-5, 0-5, 0-5, 0-5) F, W, Sp, SS1, SS2. **Isaacson and Staff**

Evaluation and treatment planning of various types of malocclusion. GR DEVEL

173.06A-B-C-D-E. Treatment Evaluation. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1, SS2. Lecture 0-3 hours. **Isaacson and Staff**

An evaluation of orthodontic treatment and prognosis for stability of results of treatment. GR DEVEL

174A-B-C-D-E. Biomechanics. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1, SS2. Lecture 0-3 hours. **Yoshikawa and Staff**

Fundamental concepts of force systems will be presented. Included are equilibrium force equivalency and free body analysis. Concepts will be related to orthodontic tooth movement and appliance design. GR DEVEL

174.01A-B-C-D-E. Primary & Mixed Dentition. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postgraduate specialty program. Lecture 0-3 hours.

Yoshikawa and Staff

Orthodontics, primary, and mixed dentition is designed to provide diagnostic information and treatment planning for malocclusions in the primary and mixed dentition periods of dental development. GR DEVEL

175A-B-C. Cleft Palate Orthodontics. (0-3, 0-3, 0-3) F, W, Sp. Lecture 0-3 hours.

Poulton and Staff

Principles of treatment. GR DEVEL

177A-B-C-D-E. Practice Management. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1, SS2. Lecture 0-3 hours. **Scholz, Moawad and Staff**

Practice management and office administration. GR DEVEL

178A-B-C-D-E. Orthodontic Research Seminar. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1, SS2. Seminar 1 hour. **Yoshikawa and Staff**

Introduction to the design of clinical orthodontic investigations. Fundamental research concepts for hypothesis testing are explored to develop protocols which define research objectives, study materials, and techniques for sampling, measuring and analyzing. GR DEVEL

179.01A-B-C-D-E. Clinical Orthodontics. (0-50, 0-50, 0-50, 0-50, 0-50) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postgraduate orthodontics or pedodontics program. Lab variable. Clinic 21-30 hours. **Isaacson and Staff**

Laboratory instruction precedes clinical experience. A minimum of 1,080 hours is included in the series of Orthodontics 179.01A-B-C-D-E and 179.03A-B-C-D-E. GR DEVEL

179.03A-B-C-D-E. Clinical Orthodontics. (0-50, 0-50, 0-50, 0-50, 0-50) F, W, Sp, SS1, SS2. Prerequisite: Enrollment in postgraduate

orthodontics program. Lab variable. Clinic 21-30 hours. **Isaacson and Staff**

Continuation of Orthodontics 179.01A-B-C-D-E. GR DEVEL

181. Occlusion. (1) F, W, Sp. Prerequisite: Orthodontics 121 and 131A-B-C. Seminar 1 hour. **R. Boyd**

Various concepts of occlusion will be evaluated as they affect habilitation and functional problems of the temporomandibular joint. GR DEVEL

Orthopaedic Surgery

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

Core Clerkship—Surgery 110 and 111 include seven to eight orthopaedic lectures, case presentations, and outpatient clinic assignments. Students are given instruction in methods of examination of patients with musculoskeletal disorders with emphasis on diagnosis and principles of treatment.

140.01. Adv Ortho Clkshp—UC-SFGH-VA. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. **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. Off-Campus 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 chairperson of the department and the dean. ORTHO SURG

140.03. Rehabilitation Medicine—RDMC & VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 or Pediatrics 110. **Specht, Cappendale**

Course will provide knowledge and skills in electrodiagnosis, neurologic rehabilitation, spinal cord injury, closed head trauma, the rheumatoid patient, orthopaedic rehabilitation, hazards of bed rest, and acute and chronic low back pain. ORTHO SURG

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

Library research and directed reading under direction of a member of the faculty with the approval of the chairperson of the department. Lecture, individualized instruction, and clinical experience may also be included. ORTHO SURG

401. Orthopaedic Pathology. (1) F, W, Sp. Prerequisite: Third- and fourth-year residents. **UC J. Johnston**

A lecture series covering tumors and infections of the musculoskeletal system, illustrated by microscopic slides and photographs of gross specimens. ORTHO SURG

402. Musculoskeletal System Physiol. (1) F, W, Sp. **UC Trafton**

Seminars cover connective tissue metabolism; muscle, bone, and joint physiology; preoperative and postoperative management of patients; wound infections; microbiology; and surgical principles. ORTHO SURG

403. Gross & Functional Anatomy. (1) F, W, Sp. **UC Trafton**

Course includes lectures by students and faculty on gross and functional anatomy, laboratory dissections of cadaver material and demonstrations of surgical approaches. ORTHO SURG

404. Orthopaedic Literature. (1) F, W, Sp. Residents at C, RDMC, SFGH, SSF, UC and VA. **UC Trafton**

Seminars are student presentations of selected orthopaedic surgery subjects featuring historical review complete with bibliography. They are moderated by an assigned faculty member. ORTHO SURG

406. Orthopaedic Medical Staff Conf. (1) Su, F, W, Sp. **UC W. Murray**

Clinical instruction in the care and management of orthopaedic problems in rheumatoid arthritis and allied diseases. Cases are presented by residents to attending staff and rheumatology consultants. ORTHO SURG

407. Orthopaedic Surgical Conference. (1) Su, F, W, Sp. **H Slabaugh**

Seminars include presentation of problem cases by residents for consideration of diagnosis, treatment, and discussion by the attending staff. ORTHO SURG

408. Orthopaedic Surgical Conference. (1) Su, F, W, Sp. **SFGH 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 consulting staffs. Cases are presented by the residents. ORTHO SURG

412. Orthopaedic Clinical Seminar. (1) Su, F, W, Sp. **CHMC Debenham, 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. Orthopaedic Medical Staff Conf. (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 Debenham, SSF L. Larsen, SH I. Larsen**

Residents are responsible for patient care in the wards and outpatient clinics including history-taking, physical examinations, laboratory tests, elective surgery, fracture treatment, plaster techniques and consultations. ORTHO SURG

452. Traumatic & Adult Orthopaedics. (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 clinics 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 Sports Medicine. (1) Su, F, W, Sp. **J. Glick and Staff**

Clinical instruction in the care and management of orthopaedic problems in athletic injuries. Course consists of clinical practice under supervision as well as didactic lectures every third week. ORTHO SURG

490. Clinical Orthopaedics—SFGH. (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 attending staff, including history-taking, physical examinations, X-ray conferences, and consultations. ORTHO SURG

Otolaryngology

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

Core Clerkship—Surgery 110 and 111 include lectures and case demonstrations on the examination and diagnosis of otolaryngological diseases, particularly those related to trauma and infection. Instruction is given in the examination and diagnosis of ward and clinic patients with otolaryngological surgical diseases.

140.01A. Adv Otolaryngology Clerkship. (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. OTOLARYN

140.01B. Adv Otolaryngology Clerkship—VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110. **J. Ross**

A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

140.01C. Adv Otolaryngology Clkshp—SFGH. (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. OTOLARYN

140.01D. Adv Otolaryngology Clerkship—L. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110. **R. Wong**

A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

140.01E. Adv Otolaryngology Clkshp—NRM. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C and Surgery 110. **Staff**

A practical course in general otolaryngology including diagnosis and treatment of common ear, nose, and throat problems; both inpatient and outpatient experiences will be offered. OTOLARYN

140.02. Off-Campus Clerkship. (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 chairperson of the department and the dean. OTOLARYN

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

R. Schindler

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

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

Merzenich

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

400. Didactic Lectures. (2) F, W, Sp.

R. Schindler

Lectures cover the anatomical, physiological, and clinical aspects of otolaryngology. OTOLARYN

401. Head & Neck Gross Anatomy. (1) W.

Boles

A formal course in the anatomy of the head and neck. OTOLARYN

403. History & Pathology. (½) F, W.

Dekelboom

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. Audiology & 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 re-

habilitation, and speech and hearing problems of children and adults. OTOLARYN

406. Tumor Conference. (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

407. Head & Neck Plastic Surgery. (1) F, W, Sp. Seminar 1 hour.

Crumley

Basic science and clinical aspects of cosmetic facial surgery and reconstructive surgery of the head and neck are covered in a weekly one-hour seminar. Slide presentations, videotape movies, didactic lectures, and anatomic dissections constitute the curriculum. OTOLARYN

410. Temporal Bone Anat & Pathology. (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

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

450. Clinical Otolaryngology. (10) Su, F, W, Sp.

UC Boles, SFGH Wildes, VA J. Ross, C P. Bartlett

Residents, under supervision, are responsible for patient care in the wards and out-patient clinics including history-taking, phys-

ical examination, laboratory tests, preoperative and postoperative care, minor surgery, audiometry, vestibular testing, and consultations. Senior resident has certain administrative, teaching, and clinical responsibilities. OTOLARYN

452. Technique of Endoscopy. (1) F, W, Sp.

Boles

A study of the techniques of endoscopy and some practical laboratory study including cadaver work. OTOLARYN

490. Clinical Otolaryngology-SFGH. (1½ per week) Su, F, W, Sp.

Wildes

Interns, under supervision of the attending staff, are responsible for patient care on wards and in the follow-up clinic, including history-taking, examination, and consultation. This rotation is combined with patient-care assignments in the Ophthalmology Service. OTOLARYN

Parasitology

135. Medical Parasitology. (3) W. Lecture 2 hours. Lab demonstration 2 hours.

Heyneman and Staff

An introduction to the protozoa, helminths, and arthropods that parasitize man. Parasite ecology and disease epidemiology, clinical and diagnostic aspects of parasite diseases and their treatment are considered in lecture and laboratory. Emphasis in the laboratory is on demonstration. EPID INTL HLTH

Pathology

101. General & Systemic Pathology. (4) F

Prerequisite: Substantive courses in anatomy, biochemistry, physiology, histology, microbiology (or concurrent enrollment), concurrent enrollment in Medicine 132A. If in doubt as to adequacy of preparation, consult

the instructor. Lecture 3 hours. Lab 2 hours.

Friend, Margaretten and Staff

Mechanisms and language of disease are discussed, with emphasis on cell injury, inflammation, infectious agents, repair, regeneration, hemodynamic derangements, neoplasia. Recent advances and classical concepts of diseases as they affect the heart and blood vessels, lungs, gastrointestinal tract are presented. PATHOLOGY

102. Systemic Pathology. (3) W. Prerequisite: Pathology 101. Lecture 3 hours. Lab 2 hours.

Margaretten, M. Warnock and Staff

Recent advances and classical concepts of diseases as they affect the following organ systems are presented: pancreas, liver, central nervous system, kidney, endocrine system, skin. Emphasis will be on correlation of functional and morphologic characteristics of diseases of organ systems. PATHOLOGY

103. Systemic Pathology. (3) Sp. Prerequisite: Pathology 102. Lecture 3 hours. Lab 2 hours.

Margaretten, M. Warnock and Staff

Recent advances and clinical concepts of diseases as they affect the following organ systems are presented: reproductive systems, skeletal system, hematopoietic system, and lymph nodes. Emphasis will be on correlation of functional and morphologic characteristics of diseases of organ systems. PATHOLOGY

126. General Pathology. (5) § F. Prerequisite: Substantive courses in biochemistry, physiology, histology, microbiology (first quarter, concurrent) or an introduction to immunology. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours. Lab 6 hours.

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, regen-

eration, hemodynamic derangements, genetic disorders, disturbances of cell growth, and neoplasia. PATHOLOGY

135. General Pathology. (3) F. Prerequisite: Substantive courses in biochemistry, physiology, histology, microbiology (first quarter, concurrent) or an introduction to immunology. If in doubt as to adequacy of preparation, consult the instructor. Lecture 3 hours.

Biava

This course is identical to the lecture portion of Pathology 126. PATHOLOGY

150.01. Autopsy Dissection Principles. (1½ per week) Su, F, W, Sp. Prerequisite: Pathology 101. Consent of instructor. Enrollment limited.

M. Warnock

Performance of one to two autopsies. Emphasis will be on review of normal anatomy and histology and systematic observations and descriptions of pathologic material. Objective of the course is to provide a better understanding of clinical pathologic correlations. PATHOLOGY

150.02. Off-Campus Pathology Clerkship. (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. Pathology Clerkship-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. Pathology Clerkship-UC & VA. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. Consent of instructor.

Staff

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. (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

150.06. Surgical Pathology-VMC. (1½ per week) F, W, Sp. Prerequisite: Pathology 102 and consent of instructor.

H. M. Price, Bezmalinovic

Clerkship is designed to acquaint students with available techniques of tissue analysis, from light microscopic to micromolecular levels, and their application in diagnosis and surgical care. Experience includes postmortem examination, review of surgical biopsies and frozen sections, electron microscopy. PATHOLOGY

170.01. Clinical Cytology. (3) Sp. Prerequisite: Anatomy 102, Pathology 101 and 102.

E. King, E. Hill

Lectures on basic fundamentals of cytology, normal cells, malignant cells, abnormal non-malignant cells, collection, and preparation methods. Microscopic examination of specimen and correlation of cellular and tissue pathology with colposcopic and clinical findings on examination of the patient. PATHOLOGY

170.02. 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. Anatomy Pathology Conference. (1) F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. Conference 1 hour.

Staff

Presentation of selected current cases seen in the hospital pathology laboratory. Discussion of pathological findings, and correlation with clinical and radiologic findings and treatment. PATHOLOGY

170.05. Neuropathology. (2) W. Prerequisite: Pathology 102. Third- or fourth-year standing. Lecture and seminar 2 hours.

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. General Pathology. (3) F. Prerequisite: Anatomy 118. Lecture 3 hours.

Biava and Staff

This course is identical to the lecture portion of Pathology 126. Elective in the dental hygiene curriculum. PATHOLOGY

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

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

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

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

209. Applied Pathology. (3) § W. Prerequisite: Microbiology 126A-B and Pathology 126 or equivalents. **J. Greenspan**

Weekly seminars are designed to provide students with an understanding of the basic principles of pathology. Emphasis is placed

on research; students will critically review current literature in the field, under faculty supervision. PATHOLOGY

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

A laboratory rotation course, to familiarize students with various approaches to experimental pathology and research in the basic medical sciences, particularly in relationship to human disease processes. Intended primarily for new graduate students. PATHOLOGY

220. Experimental Pathology Seminar. (2) § F, W, Sp. Prerequisite: Permission of the graduate adviser of the department. Lecture 1 hour. Seminar 1 hour. **R. Stern**

Presentation of research by students and seminar in pathology and disease mechanisms. Basic and clinical sciences faculty discuss current research in disease processes. Readings assigned. Formulation of testable hypothesis and discussion of experimental design led by student leader each session. PATHOLOGY

225. Connective Tissue Research Sem. (4) § F, W, Sp. Seminar 4 hours. **R. Stern**

Students and faculty review literature and discuss current concepts and experiments in connective tissue research. Included are role of structural proteins, such as collagen and elastin in pathology, cell matrix, interactions in developmental biology and morphogenesis. PATHOLOGY

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

296. Exptl Models for Human Disease. (3) § Sp. Lecture 3 hours. **R. Stern**

Course covers experimental carcinogenesis; survey of experimental models for the study of human neoplasia. PATHOLOGY

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

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

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

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

400. Pathology & Lab Med Seminar. (1) F, W, Sp. Interns and residents. Prerequisite: Medicine 110 and Surgery 110 or consent of instructor. Seminar 1 hour. **Staff**

Recent developments in diagnosis and research in pathology and laboratory medicine are discussed by faculty and guest speakers. PATHOLOGY

401. Special Topics Seminar. (Units to be arranged) Su, F, W, Sp. Interns and residents. **Staff**

Seminars focusing upon the pathology of specific organ systems are conducted by specialists. Emphasis is on the correlation between clinical manifestations of the disease and pathologic findings. PATHOLOGY

402. Pathology Research. (1-8) Su, F, W, Sp. Interns and residents. **Staff**

Students, under supervision, pursue original investigation in pathology and allied subjects. Investigators review the literature, make observations, and correlate physiological with pathological concepts. PATHOLOGY

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

405. Dermatopathology. (2) F, W, Sp. Prerequisite: Pathology 101 or equivalent by consent of instructor. Lab 2 hours. Seminar 1 hour. **Sagebiel**

Survey of inflammatory and neoplastic skin diseases by study of histopathological changes and discussion with emphasis on clinicopathologic correlations. PATHOLOGY

450. Pathologic Anatomy. (5-10) Su, F, W, Sp. Required for interns; elective for residents. **Staff**

Theory and methodology of pathologic anatomy, interpretation and correlation of data, and study of literature. PATHOLOGY

455. Electron Microscopy Seminar. (1) W. Prerequisite: Medicine 110 and Surgery 110 and consent of instructor. Lecture 1 hour. Elective for interns and residents. **Staff**

Course covers basic electron microscopic techniques, indications for use of electron microscopy in pathologic diagnosis, and the specific ultrastructural features of normal and diseased tissue. Emphasis is placed on renal biopsy and tumor diagnosis. Documented attendance is required. PATHOLOGY

495. Pathologic Anatomy. (1½ per week) Su, F, W, Sp. Required for interns. **Staff**

Theory and methodology of pathologic anatomy, interpretation and correlation of data, and study of literature. PATHOLOGY

Pediatrics

100. Medical Genetics. (2) F. Lecture 2 hours. **Golbus**

Basic aspects of human genetics are presented in a context relevant to the diagnosis, treatment, and counseling of genetic disorders and congenital malformations. Emphasis is placed on the application of genetic knowl-

edge to actual counseling problems. PEDIATRICS

110. Ped Core Clerkship—UC-SFGH-L-C. (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 Pediatric 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 I; Inpatient and outpatient at K; Inpatient and outpatient at CHMC; Inpatient and outpatient at NRMHC. PEDIATRICS

140.01A. Adv Outpt Pediatric Clkshp—UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Pantell, Bergman, S. Rowe

Students are assigned general pediatric patients for assessment and treatment. Supervision will be given with respect to interviewing skills and clinical decision-making. Frequent use will be made of videotaped interviews and decision analysis techniques as teaching aids. PEDIATRICS

140.01B. Adv Outpt Pediatric Clkshp—SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. **Pascoe**

Students are assigned patients in the Children's Health Center. They are supervised by attending and resident staff. Major part of the time is spent in the acute care clinic. Some subspecialty experience is available. Time is not assigned to ward patients. PEDIATRICS

140.01C. Adv Outpt Pediatric Clerkship—L. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Grumbach, Bruhn

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. Outpt Pediatric Clerkship—CHMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor. **Gerdson**

Students are assigned patients under supervision of attending and resident staff. They attend conferences and rotate through a variety of specialty clinics as well as the General Medical Clinic and the Emergency Room. PEDIATRICS

140.01E. Adv Inpt Pediatric Clkshp—CHMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

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 and also all daily formal teaching conferences. PEDIATRICS

140.01F. Outpt Pediatric Clkshp—KP. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

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

140.01G. Inpatient Pediatric Clerkship—K. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Shinefield

Students are assigned patients under supervision of attending and resident staff. They present patients on wards, assist with procedures, and attend specialty conferences for discussion of patients. PEDIATRICS

140.01H. Outpatient Pediatric Clerkship-NRMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Koenig

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. Inpatient Pediatric Clerkship-NRMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Koenig

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. Nursery Elective-UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

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. Students are on call every third night. PEDIATRICS

140.01K. Neonatal Intensive Care-SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

D. F. Wong, Partridge

Care of the high-risk neonate in busy intermediate intensive care neonatal nursery. Direct clinical responsibilities in a four-week sub-internship. PEDIATRICS

140.02. Off-Campus Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Grumbach

Clinical clerkship in off-campus hospitals approved by the chairperson of the department and the dean. PEDIATRICS

140.03. Outpatient Pediatrics-VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

McCann

Experience caring for sick and well children with 27,000 patient visits/year. Preventive medicine and anticipatory guidance along with principles of growth and development. All activities closely supervised by either senior residents or faculty. Daily morning conferences, chart rounds, assigned readings. PEDIATRICS

140.04. Pediatric Cardiology. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Open to UCSF students only.

S. J. Robinson

Experience in clinical evaluation of children with cardiac abnormalities is emphasized. Daily ward rounds on pediatric cardiology patients, attendance at designated cardiac surgical procedures, catheterization, weekly catheterization conference, extensive reading assignments, and daily attendance in private office setting are included. PEDIATRICS

140.05. Pediatric Private Practice. (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.

Garcis

Clinical clerkship in adolescent medicine with emphasis on outpatient clinical experience in a wide range of health problems of the adolescent. PEDIATRICS

140.07. Developmental Pediatrics in Fresno. (1½ per week) W, Sp. Prerequisite: Pediatrics 110.

D. M. Snyder

Students learn to identify children with developmental disabilities and direct their remediation to allow for achievement of their greatest potential. Various settings are used in acquiring skills in developmental assessment. PEDIATRICS

140.08. Outpatient Pediatrics-MZ. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

J. E. Anderson, 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. Hematology & 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 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. Cardiology-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 surgical cardiac patients, cardiopulmonary laboratory, and cardiovascular conferences. Emphasis is on the physiological principles of diagnosis and management. PEDIATRICS

140.12. Inpatient Pediatrics-MZ. (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 emphasized through the Care With Parent Program. Night call includes pediatric E.R. experience. PEDIATRICS

140.13. Endocrinology-UC. (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. Juvenile Diabetes. (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. Oncology-UC. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

Ablin, Zoger, K. Matthay

Participation in management of patients with solid tumors and leukemia; attendance at pediatric tumor board, ward rounds and outpatient clinic. Special emphasis on psy-

chosocial problems; supervised reading and discussion with preceptor. PEDIATRICS

140.16. Pediatric Nephrology-UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

D. E. Potter

Introduction to general nephrology with children having nutritional problems, ESRD, and chronic renal failure. Post-transplant and dialysis consultations, new cases from the nursery, and cases requiring TPN. Research projects may be arranged with instructors. PEDIATRICS

140.17. Genetics-UC. (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. Advanced Inpatient Pediatrics-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

140.20. Advanced Outpatient Pediatrics-C. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

Giammona

Students participate in the comprehensive care of children. Experience with various illnesses is provided in appropriate specialty clinics. A wide variety of child care problems

will be seen during visits to offices of senior pediatricians participating in the program. PEDIATRICS

140.21. Allergy-UC. (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. Outpatient Pediatrics-STM. (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 Care-C. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

Hirata

Students participate in the care of infants in the intensive care nursery in close association with the house staff, fellows, and senior staff and in conferences conducted by senior staff. PEDIATRICS

140.24. Neonatal Care-MZ. (1½ per week) F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. Consent of instructor.

R. Ballard

Experience in normal newborn and intensive care nurseries, according to student's interests and skills. Student participates in the care of transport infants, and on night call. PEDIATRICS

140.25. Devel & Behavioral Peds-MZ. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110.

Gorski and Staff

Practical orientation and training for assessment and intervention of motor, cognitive, and social development of normal and high-risk children. Course includes didactic seminars in medical ethics, child psychiatry, neurodevelopmental and behavioral pediatrics. PEDIATRICS

140.26. Comprehensive Pediatric Care—KP. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Schoen**

Within the country's largest prepaid health care program students will participate in office visits, urgent ambulatory care, health education, and inpatient care. They will work with staff and resident physicians, nurse practitioners and health educators. PEDIATRICS

140.27. Inpatient Pediatrics—KP. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Schoen**

Students will perform histories and physical examinations on the pediatric ward under supervision of resident and attending physicians. They will attend resident conferences, see urgent clinic cases with resident and participate in outpatient clinic for discharged patients. PEDIATRICS

140.28. Adolescent Medicine—SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **R. C. Brown**

Students will attend regular conferences and participate in outpatient care of youth. Opportunity to visit community sites serving youth is included. PEDIATRICS

140.29. Inpatient Pediatrics—VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110, Pediatrics 110 and consent of instructor. **Moreno**

Students are assigned to a clinical team of house officers, faculty, and practitioners, and participate in the care of acutely ill hospitalized children. Students refine skills in history-taking, physical examinations, case write-ups and presentations, assist in special procedures and attend daily conferences. PEDIATRICS

140.30. Gastroenterology & Nutrition. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Perman, Heyman, Thaler**

Students participate with fellows and staff in the diagnosis and treatment of gastrointestinal and hepatic diseases, and nutritional deficiencies in infants and children. They present patients on wards and in the outpatient clinic, assist with procedures, and attend specialty conferences. PEDIATRICS

140.31. Inpatient Pediatric Clkshp—VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Pediatrics 110. **Nilson**

Opportunity to develop and perfect skills in history-taking, physical examination, case write-ups, presentations, and procedures. Supervised problem-oriented learning/teaching environment fosters basic diagnostic and management skills. Conferences, case work-ups and presentation, night call with resident, and assigned reading. PEDIATRICS

150.02. Human Cytogenetics—UC. (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—UC. (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 Peds—UC. (2) F, W. **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

170.01. Peds Devel Resource Overview. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of instructor. **L. Crain**

Weekly seminar and reading assignments correlated with observation of the spectrum of community and institutional services; diagnostic, preventive and program services for individuals with developmental disabilities included. PEDIATRICS

170.02. Primary School Health Educ. (1-2) F, W, Sp. Prerequisite: Consent of instructor. Attendance of initial orientation by the curriculum department of the San Francisco Unified School District, scheduled at the first session of the quarter. Field work 3 hours plus class participation. Topic paper optional with consent of instructor for 2 units. **L. Crain, Ernster**

Health professions students are oriented to working with Primary Grades Health Curriculum Program, and participate, under guidance of qualified instructors, in implementing PGHCP for K-3 grade children in local schools. PEDIATRICS

180. Human Biochemical Genetics. (1) F, W, Sp. Prerequisite: Pediatrics 110 or equivalent. Seminar 1 hour. **Packman**

Selected topics in human biochemical genetics, emphasizing research and concepts of current interest. Course is directed toward physicians, postdoctoral fellows, medical students, and genetic counselors. A seminar format will be used, with directed reading and discussion. PEDIATRICS

180.01A-B-C-D. Adolescent Development. (2) F, W, Sp, Su. Prerequisite: Consent of instructor. Seminar 2 hours. **Irwin**

A four-quarter course covering the physiologic, psychologic, cognitive and social development of adolescence. Also included is

material on sexuality, nutrition, family interaction, cultural differences, legal issues, school behavior, substance abuse and psychiatric problems, and common medical problems. PEDIATRICS

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

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

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

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

400. Staff Conference. (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 Conf. (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. 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—UC. (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—SFGH. (1½ per week) Su, F, W, Sp. Residents. **M. Grossman**

Residents, under supervision, are responsible for patient care in the wards, communicable disease section, and outpatient clinic including history-taking, physical examination, laboratory tests, diagnosis, and treatment. Emphasis is on diagnosis and management of infection trauma, and pediatric emergencies. PEDIATRICS

462. Clinical Primary Care. (1½ per week) Su, F, W, Sp. **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. **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—SFGH. (1½ per week) Su, F, W, Sp. **M. Grossman**

Interns rotate through newborn nursery, pediatric wards and clinic, communicable

diseases ward, and emergency room. They are responsible for the care of patients, under the direction of the attending staff, including history-taking, physical examination, laboratory tests, and consultation. PEDIATRICS

495. Clinical Pediatrics. (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

109.01. Clinical Rotation. (0-½) W, Sp. Prerequisite: Third-year standing. Clinic rotation 12 hours. **M. Morris**

Introduction to the examination of the child patient, treatment planning, prevention instruction, dietary analysis and counseling, and the performance of operative procedures. Proper management of the child patient will be stressed. GR DEVEL

109.02. Clinical 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

130B-C. Clinical Pedodontics. (1, 2) W, Sp. Prerequisite: Operative Dentistry 125A-B-C. Lecture 1 hour W; 2 hours Sp. **Leggott**

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. (0-5, 0-5, 0-5, 0-5) F, W, Sp, SS. Clinic variable.

Staff

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. (0-5, 0-5, 0-5) F, W, Sp. Prerequisite: Pedodontics 170.01A-B-C-D. Clinic 0-15 hours.

B. A. Smith

Continuation of Pedodontics 170.01A-B-C-D. GR DEVEL

171.01A-B-C-D-E. Pedodontic Seminar. (0-3, 0-3, 0-3, 0-3, 0-3) F, W, Sp, SS1, SS2. Seminar 1-3 hours.

B. A. Smith and Staff

A variety of pedodontic patients is discussed through documented case history presentations. Current and classical literature in pedodontics and allied specialty areas is reviewed. GR DEVEL

173. Community Outreach. (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

175. Pedodontic Seminar. (0-3) F, W, Sp. Seminar 1-3 hours.

Barkin

A variety of pedodontic patients is reviewed through documented case history presentations. Current and classical literature in pedodontics and allied specialty areas is reviewed. 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. (0-3) Su, F, W, Sp.

Staff

Experience is provided in history-taking, admitting, laboratory tests, order, and chart keeping. Students are assigned to an interdisciplinary health care team and provide dental care for patients on the ward or in the operating room, using a general anesthesia. GR DEVEL

178. Advanced Clerkship. (0-18) Sp. Prerequisite: Postdoctoral standing and arrangement through head, postdoctoral pedodontists, to observe the practice management of the offices. Lecture and lab variable.

B. A. Smith and Staff

Course provides varied clinical experiences, skills, and competence. This advanced clerkship is available for second-year students in pedodontics who have successfully completed the requirements considered core to the 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. A. 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

189.01. Clinical Practice. (0-9) F, W, Sp. Prerequisite: Pedodontics 130B-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

Periodontology

109. Clinical Periodontics. (0-6) F, W, Sp. Prerequisite: Periodontology 110, 119, 121 and 129. Clinic variable.

Taggart

S. R. Miller

Treatment of a variety of periodontal diseases under the direct supervision of faculty. PERIODONT

110. Introduction to Periodontics. (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. Intro to Periodontal Therapy. (½) Sp. Clinic five 4-hour periods.

Taggart

Introduction to the techniques of supragingival scaling and root planing. PERIODONT

121. Intro to Periodontal Therapy. (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 Periodontal Techniques. (0-½) F, W, Sp. Prerequisite: Periodontology 110 and 119. Clinic variable. Lab rotation 6 hours.

Taggart

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. Surgical Periodontics. (1) F. Prerequisite: Periodontology 121. Lecture 1 hour.

Taggart

The demonstration and rationale of surgical treatment of periodontal lesions. PERIODONT

150. Oral Hygiene. (2) Sp. Lecture and demonstration 2 hours.

Taggart

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. Periodontal Therapy. (1) F. Prerequisite: Periodontology 150. Lecture 1 hour.

Taggart

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. Advanced Periodontal Therapy. (1) W. Prerequisite: Periodontology 160. Lecture 1 hour.

Taggart

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 Periodontium. (2-2-2) F, W, Sp. Lecture 1 hour. Lab 3 hours.

Dienstein (F, W), Ryder (Sp)

Dynamics of inflammation and its role in the periodontal tissues. PERIODONT

171. Clinical Periodontics. (0-8) F, W, Sp, SS1. Prerequisite: Enrollment in postgraduate periodontology program. Clinic 12 hours.

Shibata

Clinical procedures in periodontal therapy. PERIODONT

172. Examination & 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 psychosedation, 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

173.02. Periodontal Therapy. (4) F, W, Sp, SS1. Prerequisite: Enrollment in postgraduate periodontology program. Clinic 12 hours.

Shibata

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. Orthodontic & Periodontic Prob. (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

175. Treatment Planning & Surgery. (0-3, 0-3, 0-3, 1) F, W, Sp, SS1. Seminar 1 hour.

Shibata

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They are expected to defend their treatment plan and therapeutic procedure based on relevant literature and clinical experience. PERIODONT

175.01. Adv Treatment Planning & Surgery. (1) F, W, Sp, SS1. Seminar 1 hour.

Shibata

Students present and discuss management of their cases that are either planned for treatment or currently under treatment. They will be responsible for defending their treatment plan and therapeutic procedures based on relevant literature and clinical experience. PERIODONT

176. Original Investigation. (1-5) F, W, Sp. Prerequisite: Enrollment in postgraduate specialty program or consent of instructor. Lab 3-15 hours.

Armitage

Research. PERIODONT

177. Periodontal Surgery Seminar. (2) F, W, Sp. Prerequisite: D.D.S. degree and consent of instructor. Lecture 2 hours.

Raust

Study in depth with literature review and seminar discussions on surgical techniques used to treat lesions involving the hard and soft tissue of the periodontium. PERIODONT

178A-C. 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

180. Periodontics in General Practice. (1) W. Lecture 1 hour. **Fagerstrom**

Implementation of the skills and knowledge of periodontology in the private practice environment. PERIODONT

180.02A-B. Periodontal Literature. (1-1) F, W. Prerequisite: Periodontology 131 and consent of instructor. Seminar 1 hour.

Taggart

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

189.01. Clinical Periodontics. (0-9) F, W, Sp. Prerequisite: Periodontology 109. Clinic variable.

Parr

Continuation of clinical experience beyond the level of Periodontology 109. PERIODONT

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

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

201A-B-C. Experimental Design. (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

202A-B. Molec & Biochem Basis of Disease. (2-2) § F, W. Prerequisite: Biochemistry 100A-B or equivalent introduction to bio-

chemistry. Lecture 2 hours. Seminar 1 hour. **Bhatnagar**

Course reintroduces students to the principles of biochemistry and molecular biology in relation to current concepts in the molecular basis of major disease entities including cancer, metabolic disorders, fibrotic and degenerative disorders of connective tissues, inflammation and wound healing. PERIODONT

209. Literature Review. (2) § F, W, Sp. Seminar 2 hours. **Staff**

Seminar designed to correlate basic sciences with problems in periodontology and evaluate concepts in the direction of research, clinical application, and teaching. Selected papers in the literature are reviewed and evaluated. Other instructors are invited to participate. PERIODONT

Pharmaceutical Chemistry

120. Principles of Pharm Chem. (3) § F. Prerequisite: Chemistry 113. Lecture 3 hours. **Ortiz de Montellano**

A study of physicochemical and biological factors which contribute to drug action; *in vivo* and *in vitro* biotransformations of drugs and related organic compounds. PHARM CHEM

121. Chem & Biolog Correlation. (2) W. Prerequisite: Pharmaceutical Chemistry 120 and concurrent enrollment in Pharmacology 121. Lecture 2 hours. **S. Kahl**

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. Autonomic & Cardiovasc Drugs. (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. Drugs Acting on CNS. (3) F. Prerequisite: Pharmaceutical Chemistry 120. Lecture 3 hours. **Brochmann-Hanssen, Halpin**

A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on drugs affecting the central nervous system. PHARM CHEM

134. Chemotherapeutic Drugs. (2) W. Prerequisite: Pharmaceutical Chemistry 120 and concurrent enrollment in Pharmacology 134. Lecture 2 hours. **Oppenheimer**

A systematic survey of the chemical features of synthetic drugs, including correlations between chemical structure and biological activity. Emphasis on anti-infective and anti-neoplastic drugs. PHARM CHEM

152. Radionuclides in Biol/Med/Pharm. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **Peng**

Discussion on radionuclides in frequent use in biology and medicine including radionuclides used as pharmaceuticals, with emphasis on dosage form design, quality control, clinical application, and other related aspects. PHARM CHEM

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

156. Pharmaceutical Analysis. (2) Sp. 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 & Technique. (3) W. Lecture 2 hours. Lab 3 hours. **Sadee, E. Lin**

Analytical theory and techniques for determining drugs and metabolites in biological fluids. PHARM CHEM

158. Radioisotope Measurements. (1) W, Sp. Prerequisite: Pharmaceutical Chemistry 152 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, W. 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 152 or consent of instructor. Lecture 1 hour. **D. Price**

This course will treat the theory and methodology in the application of radionuclides to organ imaging in nuclear medicine. PHARM CHEM

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

Group studies of selected topics in pharmaceutical chemistry. PHARM CHEM

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

Library research and directed reading under supervision of a member of the faculty with

the approval of the chairperson of the department. PHARM CHEM

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

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

200. Phys Chem Prop & Biolog Actvty. (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. Adv Survey of Medicinal Chem. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **Kenyon**

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. (2-3) § Sp. Prerequisite: Consent of instructor. Lecture 2-3 hours. **Sadee**

Study of the *in vivo* and *in vitro* biotransformation of foreign compounds with particular emphasis on drugs. When possible, detailed chemical and biochemical mechanisms are considered. PHARM CHEM

208. Advanced Survey of Pharmaceuticals. (2) § F or W. Lecture 2 hours. **Benet and Staff**

Basic principles underlying the area of pharmaceuticals directed at the needs of graduate students with limited familiarity with pharmaceutical sciences. PHARM CHEM

212A-B-C. Computer Prog-Biological Models. (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Lab 1 hour. Conference 1 hour. **Upton**

A three-quarter sequence of courses in computer programming with emphasis on applications to biological modeling. PHARM CHEM

213. Kinetics of Drug Absorp & Disposn. (3) § F. Prerequisite: Chemistry 115. Calculus background is recommended. Lecture 2 hours. Lab 3 hours. **Øie, 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. Adv Kinetics of Absorp & Disposn. (3) § Sp. Prerequisite: Pharmaceutical Chemistry 213 and Biochemistry 202 or equivalents. Lecture 2 hours. Lab 3 hours. **Tozer**

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 computation methods. PHARM CHEM

217A-B-C. Advanced Pharmaceuticals. (2-3, 2-3, 2-3) § F, W, Sp. Prerequisite: Physical chemistry or consent of instructor. Lecture 2-3 hours. **Staff**

Advanced topics in pharmaceuticals. PHARM CHEM

219. Enzyme Mechanisms. (2-3) § F or Sp. Lecture 2-3 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. Research Conf in Pharmaceutics. (1) § F, W, Sp. Lecture 1 hour. **Staff**

A program involving the presentation of core material in pharmaceutical chemistry in the pharmaceuticals pathway. The presentations are made by graduate students and examination is by a series of cumulative examinations. PHARM CHEM

221. Research Conf in Pharm Chem. (1) § F, W, Sp. Prerequisite: Graduate standing in the Department of Pharmaceutical Chemistry. Lecture 1 hour. **Kenyon**

A series of weekly research conferences in medicinal chemistry given by visiting lecturers, faculty, and advanced graduate students. PHARM CHEM

222. Physical Chemistry Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. **Kuntz and Staff**

Topics of current research interest in physical and biophysical chemistry. PHARM CHEM

230A. Spectroscopy. (3) § Sp. Prerequisite: Chemistry 162 or equivalent. Lecture 3 hours. **Staff**

The theory and application of molecular electronic and vibrational spectroscopy; optical rotatory dispersion and circular dichroism. PHARM CHEM

230B. Spectroscopy. (3) § W or 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) § F. Prerequisite: Pharmaceutical Chemistry 230B. Lecture 1-4 hours. **T. James**

Selected topics in spectroscopy and related areas. PHARM CHEM

235. Mass Spectrometry in Life Sci. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **Burlingame**

Elucidation of molecular structure, characterizations of mixtures, and quantitative measurements. Presentation of basic tools, concepts, and strategies in the complementary usage of currently available techniques in present biochemical and biomedical research. PHARM CHEM

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 radiocarbon. PHARM CHEM

242. Radiotracer Methodology. (1) § W. Prerequisite: Pharmaceutical Chemistry 152 or 160⁶ 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. 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**

260. Computer Graphics. (3) § Sp. Prerequisite: Experience in programming and consent of instructor. Lecture 2 hours. Lab 3 hours. **Langridge, Ferrin**

Application of interactive three-dimensional computer graphics to modeling complex biological systems, particularly large molecules and their interactions. Elements of hardware and a detailed discussion of software. Demonstration and self-scheduled projects using the computer graphics laboratory. PHARM CHEM

266. Research Planning Conference. (1) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. **Staff**

Discussion and practice in research problem formulation and design selection. Core classes and small group sessions are organized around students' interests by faculty within the area of specialization. PHARM CHEM

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

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

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

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

Pharmacognosy

198. Supervised Study. (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. (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.

Katzung (W), Trevor (Sp)

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. (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. (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

Objective of the course is to acquaint dental and dental hygiene students with the fundamentals of pharmacology. Various classes of drugs are examined in regard to actions, absorption, fate, excretion, and toxicity. Agents useful in dentistry are emphasized. PHARMACOL

130. Clinical Toxicology. (2) Sp. Prerequisite: Pharmacology 125 and 136. Lecture 2 hours. **Burkhalter, Correia**

The occurrence, mode of action, recognition, and treatment of poisoning by environmental chemicals and therapeutic agents. PHARMACOL

134. Pharmacology. (1) W. Prerequisite: Concurrent enrollment in Pharmaceutical Chemistry 134. Lecture 1 hour.

Trevor, Taber, Barriere

Systematic survey of action and uses of anti-infective and anti-neoplastic drugs. PHARMACOL

136. Pharmacology. (4) F. Prerequisite: Pharmacology 125. Lecture 3 hours. Lab 3 hours. **Burkhalter, E. Way**

Systematic survey of action and use 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. (1-4) F, W, Sp. Prerequisite: Consent of instructor. **Staff**

Group studies of selected topics in pharmacology. PHARMACOL

172. Toxicology. (1) W. Conference 2 hours.

F. Meyers, Hodge, Hine

Course provides information on the clinical and social problems associated with selected environmental agents. PHARMACOL

193. Special Seminar. (1-3) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1-3 hours. **Burkhalter**

A seminar course covering various aspects of pharmacology and toxicology. PHARMACOL

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

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

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

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

206A-B-C. General Pharmacology. (3-3-3) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **Trevor, Bourne, 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. Oxidative Drug Metabolism. (2) § F. Prerequisite: Consent of instructor. Lecture 2 hours. **Correia, Ortiz de Montellano**

The biochemical, regulatory, and chemical aspects of mixed function oxygenases with particular emphasis on cytochrome P-450. PHARMACOL

209. Molecular Mechanisms. (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. (1-2, 1-2, 1-2) § F or W or Sp. Prerequisite: Consent of instructor. Lecture 1-2 hours. Sequence of course may be given in any quarter. Course must be taken in sequential order.

F. Meyers, Hodge, Correia, Hine

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. (1-2, 1-2, 1-2) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-2 hours.

Correia, Hodge, F. Meyers, Hine

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**
PHARMACOL

292. Physiological Techniques. (3) § F, W or Sp. Prerequisite: Survey course in pharmacology or consent of instructor. Lab 9 hours. **Hondeghem**

Principles and applications of physiological techniques used in the study of drugs. Emphasis is on the study of cardiovascular and autonomic agents. PHARMACOL

296. Lab Techniques in Toxicology. (2) § F, W or Sp. Lab 6 hours.

F. Meyers, Hodge, Hine

Principles and application of experimental techniques in the evaluation of the toxicological 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. Teaching Practicum. (1-3, 1-3, 1-3) F, W, Sp. Prerequisite: Advancement to candidacy for the Ph.D. degree. **Staff**

Opportunity is provided to participate in a formalized way in the teaching of pharmacology under the direction of the faculty. PHARMACOL

Pharmacy

111. Non-Prescription Products. (1) F. Conference 2 hours. **Yee**

Evaluation and comparison of non-prescription medications and appliances. Discussion on their patterns of use in the community is included. Emphasis is on verbal communications. PHARMACY

112. Non-Prescription Products. (1) W. Prerequisite: Pharmacy 111. Conference 2 hours. **Yee**

Continuation of Pharmacy 111. PHARMACY

113. Non-Prescription Products. (1) Sp. Prerequisite: Pharmacy 112. Conference 2 hours. **Yee**

Continuation of Pharmacy 112. PHARMACY

114. Biopharmaceutics & Phys Pharmacy. (3) F. Prerequisite: Concurrent enrollment in Chemistry 115. Lecture 3 hours. **Guy**

A study of the physical, chemical, and biological factors which interact and dominate the design of dosage forms as drug delivery systems, including an introduction to the analysis of clinical data. PHARMACY

115. Biopharmaceutics & Phys Pharmacy. (4) W. Prerequisite: Pharmacy 114 and concurrent enrollment in Chemistry 116. Lecture 3 hours. Lab 3 hours. **C. Hunt, Shell, R. Day**

Continuation of Pharmacy 114 with the addition of laboratory preparation of basic drug delivery systems. PHARMACY

116. Biopharmaceutics & Phys Pharmacy. (4) Sp. Prerequisite: Pharmacy 115. Lecture 3 hours. Lab 3 hours. **Szoka, Hoener, J. Hunt, R. Gibson, Benet**

Continuation of Pharmacy 115. PHARMACY

127. Biopharmaceutics & Dispensing. (4) F. Prerequisite: Pharmacy 116 and Pharmacy Administration 112. Lecture 2 hours. Lab 6 hours. **R. Day, C. Jackson, Hoener**

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. **Øie, 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. **Giacomini, Øie**

Continuation of Pharmacy 128. PHARMACY

151. Community Health Education. (2) Sp. Lecture and discussion 2 hours. Participation in at least four community health education programs. **R. Gibson**

Course is designed to train students for participation in community health programs dealing with drug abuse education and other drug-health related areas, such as poison prevention, venereal disease, and birth control. Course may be repeated for credit. PHARMACY

152. Special Topics in Pharmaceutics. (2) Sp. Prerequisite: Pharmacy 116 or concurrent enrollment. Lecture 2 hours. **Szoka**

An intermediate course offering an opportunity to explore, in greater depth, special drug delivery systems and some fundamental relationships involved in their design or action. PHARMACY

153. Seminar Preparation Techniques. (1) Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Conference 1 hour. **Sadee, Tozer**

Preparation, presentation and evaluation of research seminars. PHARMACY

155. External Drug Products. (3-4) W, Sp. Prerequisite: Pharmacy 127. Lecture 2-3 hours. Lab 3-6 hours. **Blake, C. Jackson**

Discussion and laboratory exercises on the formulation of products for external use, including drugs and cosmetics. The course deals with the properties and ingredients of such products. PHARMACY

156. Parenteral Products. (3) F, W, Sp. Prerequisite: Pharmacy 127. Lecture 2 hours. Lab 3 hours. **C. Jackson, Blake**

Introduction to the formulation and technology of parenteral preparations. Laboratory includes participation in hospital activities in which parenterals are made and administered. PHARMACY

164. Veterinary Products. (3) Sp. Prerequisite: Microbiology 120, 127, Pathology 135, Pharmacology 136 and Pharmacy 116. Lecture 3 hours. **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 product dispensing. PHARMACY

165. Pharmaceutical Technology. (3) F. Prerequisite: Pharmacy 116. Lecture 1 hour. Lab 6 hours. **Blake**

An introduction to the technology of liquid and semisolid pharmaceuticals. Special emphasis is given to the problems encountered and the materials used in pharmaceutical manufacturing. PHARMACY

166. Pharmaceutical Technology. (3) W. Prerequisite: Pharmacy 165. Lecture 1 hour. Lab 6 hours. **Blake**

An introduction to the technology of solid dosage forms, especially tablets and capsules. Emphasis is placed on problems encountered in preparation of this type of medication. PHARMACY

167. Pharmaceutical Technology. (3) Sp. Prerequisite: Pharmacy 166. Lecture 1 hour. Lab 6 hours. **Blake**

An advanced study of the relationship of the art and science of pharmaceutical technology to solid dosage forms. PHARMACY

168. Clinical Pharmacokinetics-UC. (2) F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor. Reports and conferences 6 hours. Enrollment limited. **Tozer**

Discussion and review of the literature in the clinical application of pharmacokinetic principles in drug therapy. PHARMACY

168.02. Clinical Pharmacokinetics-UCI. (2) F, W, Sp. Prerequisite: Fourth-year standing

or consent of instructor. Reports and seminar 3 hours. Enrollment limited. **Shimomura**

Discussion and review of the literature on the clinical application of pharmacokinetic principles in drug therapy. PHARMACY

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

Group studies of selected topics in pharmacy. PHARMACY

170.05. Clinical Drug Investigations. (2) Sp. Prerequisite: Introductory statistics recommended. Lecture 2 hours. **R. L. Williams, Bostrom**

Discussion of methods for generating data about drug risk and efficacy in clinical investigations, with emphasis on the randomized clinical trial. Statistical methods used in modern clinical trials will be discussed. PHARMACY

170.06. Molec & Cell Biology in Drug Devel. (2) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Szoka**

Introduction to the role of cellular and molecular biology in developing new drugs, hormones or therapeutic agents. PHARMACY

170.07. Communication Skills. (1½) W. Prerequisite: First-year standing. Lab 2 hours. Seminar 1 hour. Enrollment limited. **Lem**

Aspects of communication which focus on skills pertinent to contemporary pharmacy settings. Discussion of principles of communication and practice of specific techniques in simulated practice situations. PHARMACY

170.09. Percutaneous Absorption. (2) W. Prerequisite: First-year standing. Lecture 2 hours. **Wester, Maibach, P. Elias, Guy**

An elective course which presents material dealing with the penetration of drugs and other chemicals across the skin. PHARMACY

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

Library research and directed reading under supervision of a member of the faculty with

the approval of the chairperson of the department. PHARMACY

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

Staff

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

Pharmacy Administration

111. Pharmacy Laws. (2) 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: Basic economics or consent of instructor. 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. Hlth Prof Family & Business Law. (2) Sp. Lecture 2 hours.

J. R. Nielsen

A survey of laws relating to landlord-tenant dissolution, property division, support payments, probate and decedent's estates, with particular emphasis on how pharmacists may expect their practice to be affected by these laws, and some practical preventive legal techniques. PHARMACY

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

Staff

Group studies of selected topics in pharmacy administration. PHARMACY

180A-B-C. Legal Problems in Health Care. (2-2-2) F, W, Sp. Prerequisite: Third-year standing. 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. (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

100. Gross Anatomy. (6) Su. Prerequisite: Completion of course prerequisites for admission to the University and the Curriculum in Physical Therapy. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 3 hours. Lab 9 hours.

DeWeese

A fundamental building block of physical therapy; this course presents the gross structure of the human body studied through regional and systemic correlation by means of dissection, demonstration, surface and cross-sectional anatomy. PHYS THER

101. Pathology. (3) F. Prerequisite: Completion of course work in summer term. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 3 hours.

Biava

Mechanisms and language of diseases are discussed with emphasis on the dynamic nature of fundamental disease processes such as cell injury, immunopathology, inflammation, response to infectious agents, repair and regeneration, hemodynamic arrangements, genetic disorders, disturbances of cell growth and neoplasia. PHYS THER

102. Physiology. (3) F. Prerequisite: Completion of course work in summer term. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 3 hours.

DeWeese

Presentation of in-depth physiological function of cardiovascular, renal and respiratory systems which have become special emphases in acute and chronic rehabilitation. Introduction to the endocrine and digestive systems with particular focus on interaction with the neuromusculoskeletal systems. PHYS THER

103. Neuroanatomy. (2) Su. Prerequisite: Completion of course prerequisites for admission to the University and the Curriculum

in Physical Therapy. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 1 hour. Lab 3 hours.

Garoutte

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

104A. Physical Therapy Procedures. (3) Su. Prerequisite: Completion of course prerequisites for admission to the University and the Curriculum in Physical Therapy. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 2 hours. Lab 3 hours.

M. Snyder, Asturias

This course begins a four-quarter series presenting theory, skills and application of physical therapy procedures in patient care. Course addresses surface anatomy, kinesiology, tests and measurements for evaluation of normal integrity of neuromusculoskeletal function. PHYS THER

104B. Physical Therapy Procedures. (5) F. Prerequisite: Completion of course work in summer term. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 2 hours. Lab 8 hours.

M. Snyder, Asturias

Continuation of Physical Therapy 104A. Theory, physics and indications and contraindications of physical therapy procedures. Electro-, hydro-, cryo- and thermotherapies, massage and exercise. Problem-solving approach to treatment planning and evaluation of neuromusculoskeletal pathologies. PHYS THER

104C. Physical Therapy Procedures. (5) W. Prerequisite: Completion of course work in summer term and fall quarter. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 2 hours. Lab 8 hours.

M. Snyder, Asturias

Continuation of Physical Therapy 104B. Advanced neuromuscular, physiological, biomechanical principles related to musculoskeletal dysfunction. Theory, physiological and functional ramifications of pathology, patient evaluation and treatment of dysfunction of the cardiopulmonary, vascular and integumentary systems. PHYS THER

104D. Physical Therapy Procedures. (3) Sp. Prerequisite: Completion of course work in summer term, fall and winter quarters. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 1 hour. Lab 8 hours.

M. Snyder, Asturias

Continuation of Physical Therapy 104C. Basic neurophysiological and neuroanatomical principles of normal and pathological motor function. Various neurophysiological therapeutic concepts of evaluation and treatment planning, and implementation of treatment for the patient with neurological dysfunction. Projects and field work are included. PHYS THER

105. Physical Med & Rehabilitation. (3) F. Prerequisite: Completion of course work in summer term. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 3 hours.

Sine

Course presents the philosophy of rehabilitation and medical management of chronic diseases and the multiple handicapped person. Particular emphasis is on brain damage, spinal cord injuries and cerebrovascular accidents. PHYS THER

106A. Specialty Med Mgmt of Disease. (3) F. Prerequisite: Completion of course work in summer term. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 3 hours.

F. Schiller, S. Kaufman

Medical management of problems concerning specialties of pediatrics and neurology. In-depth presentation of the more common

medical concerns which guide the specialists' decisions and establish the sound basis for teamwork treatment between these specialties and physical therapy. Patient presentation. PHYS THER

106B. Specialty Med Mgmt of Disease. (7) W. Prerequisite: Completion of course work in summer term and fall quarter. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 7 hours.

Hoaglund, Roost, D. Adams

Medical management of problems concerning the specialties of internal medicine, orthopaedics and psychiatry. In-depth presentation of the more common medical and surgical concerns which guide the specialists' decisions and establish the sound basis for teamwork treatment between these specialties and physical therapy. PHYS THER

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

Garoutte

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

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

I. Gilbert

Presentation of basic procedures for total and emergency care of the patient. Emphasis on interpretations of vital signs, temporary emergency intervention, sterile techniques and therapist-patient interaction concerned with confidential matters. PHYS THER

109A. Prof Practice & Administration. (4) W. Prerequisite: Completion of course work in summer term and fall quarter. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 4 hours.

I. Gilbert

Study of attitudes and obligations of the profession of physical therapy presented through lecture and seminars. Emphasis on ethics, medicolegal aspects of treatment and records, methods of communication and research. Students will participate in seminar presentation and begin a library research project. PHYS THER

109B. Prof Practice & Administration. (4) Sp. Prerequisite: Completion of course work in summer term and fall quarter. Open only to students enrolled in the Curriculum; or consent of program director. Lecture 4 hours. **I. Gilbert**

Study of attitudes and obligations of the profession of physical therapy presented through lecture and seminars. Emphasis on growth of the profession and organization and administration of a clinical physical therapy department. Students will complete library research project begun in Physical Therapy 109A. PHYS THER

170.02. 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

410A. Clinical Clerkship. (7) Sp. Prerequisite: Completion of course work in summer term, fall and winter quarters. **I. Gilbert**

Students begin clinical clerkship in clinical facilities. Under close supervision, appropriate and indicated procedures of total patient treatment are performed. Gradually, full responsibility for a full patient load for particular facility is assumed. Students present in-services and write case reports. PHYS THER

410B. Clinical Clerkship. (15) Su. Prerequisite: Completion of course work in pre-

ceding summer term, fall, winter and spring quarters. Open only to students enrolled in the Curriculum; or consent of program director. **I. Gilbert**

Course is required for and permitted to graduate students only. Students provide patient care under decreasing supervision in associated clinics. Students also submit case reports, present in-services and attend scheduled campus seminars. 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. Lab 4 hours. Conference 2 hours. **Conhaim, Goerke, Kellogg**

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 & Gastroenterology. (5) § Sp. Prerequisite: Anatomy 100, Biochemistry 100A-B, Physiology 100, or consent of instructor. Lecture 5 hours. Lab 1 hour. **Reid**

The structure of the endocrine glands and the physiology of the endocrine and gastrointestinal systems, together with selected aspects of the pathology and pharmacology of these systems, are studied in lectures and laboratory. PHYSIOLOGY

110. Integrative & Nutritive Systems. (6) § Sp. Prerequisite: College-level biology, physics, and chemistry, or consent of instructor. Lecture 5 hours. Conference 3 hours. **A. Miller**

Introduction to organ systems with emphasis on nervous, endocrine, circulatory,

respiratory, and alimentary function in vertebrates. Importance of organ systems for the success of multicellular forms serves as focus. Fundamental cell processes are also discussed, emphasizing differential function. PHYSIOLOGY

120. Mammalian Physiology. (2½) W. Prerequisite: Physiology 125 required for students in School of Pharmacy; may be taken separately by graduate students with consent of instructor only. Lecture 2 hours. **J. A. Williams, Goldfine, Monroe**

Study of the integrative systems of the mammalian organism, particularly the gastrointestinal and endocrine systems. PHYSIOLOGY

125. Mammalian Physiology. (6) F. Prerequisite: Consent of instructor. Lecture 4 hours. Lab 4 hours. Conference 2 hours. **Mines, Goerke, Kellogg**

Physiology of the human cardiovascular, respiratory and renal systems is stressed, with special attention to developing problem solving skills using the material. PHYSIOLOGY

126. Neuroscience for Pharmacy. (4) W. Prerequisite: Physiology 125 or consent of instructor. Lecture 3 hours. Lab 1½ hours. Conference 1 hour. **Korenbrot, A. Kelly, Copenhagen, R. Snyder and Staff**

Course is designed primarily for students in the School of Pharmacy. The course will present an integrated approach to the physiological operations of the nervous system and the morphological or anatomical substrates in which these occur. PHYSIOLOGY

150.01. Research in Physiology. (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. (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. (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. Directed Reading Seminar. (0) § F, W, Sp. Prerequisite: Consent of instructor. **Ganong and Staff**

Directed reading organized in a seminar or tutorial fashion to review aspects of physiology under supervision of a member of the faculty. PHYSIOLOGY

201. Physiology of Vision. (2) § Sp. Prerequisite: Anatomy 103 or Physiology 110 or equivalent, or consent of instructor. Lecture 2 hours. Course will not be offered for fewer than four students. **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. 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. Adv Kidney & Electrolyte Physiol. (2-3) § Sp. Prerequisite: Physiology 100 or 125 and consent of instructor. Lecture 2-3

hours. Offered in alternate years. Offered in 1983-84. **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

209. Sensory Systems. (2) § F. Prerequisite: Anatomy 103 or equivalent. Lecture 2 hours. **Merzenich**

Lectures 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. Hormone Secretion Mechanisms. (2) § Sp. Prerequisite: Physiology 101 or consent of instructor. Lecture 2 hours. Offered in alternate years. Not offered 1983-84. **J. A. Williams**

Discussion of current literature pertaining to the mechanism of hormone synthesis, packaging, and release. PHYSIOLOGY

211. Membrane Physiology. (2) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **J. A. Williams and Staff**

Introduction to mechanisms by which ions and small molecules cross biological membranes in response to both physical forces and cellular metabolism. PHYSIOLOGY

221. Cardiovasc-Renal-Pulmonary Sys. (2) § F, W, Sp. Prerequisite: Physiology 100 or equivalent. Lecture 2 hours. **Staff**

Course includes critical reviews of topics of current importance, presentation of unsolved problems of staff, and critical evaluation of published articles by the group. The total program is presented over six successive quarters. PHYSIOLOGY

222. Endocrinology Seminar. (1) § F, W, Sp. Seminar 1 hour. Course may be repeated for credit. **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. PHYSIOLOGY

223. Physiology Research Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Course may be repeated for credit. **Ganong**

Seminar presentations by guest lecturers, alternating with discussion by Physiology staff members of their current research. Each quarter a different topic of physiological interest is the subject of guest presentations. PHYSIOLOGY

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. Teaching Practicum. (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 exami-

nations. Responsibilities are assigned according to the individual's stage of development. **PHYSIOLOGY**

301. Scientific Writing. (0) § Su, W. Prerequisite: Consent of instructor. Seminar 4 hours. **Coleridge, Zeiger**

A seminar designed to teach postdoctoral fellows and graduate students how to best put into words, tables and figures work done in the laboratory, and how to do so clearly, simply, precisely, convincingly, and briefly, so that others may understand. **PHYSIOLOGY**

302. Teaching Techniques. (0) § F, W. Prerequisite: Consent of instructor. Lecture 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

199. Laboratory Project. (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

First-Year Coordinated Instruction—Medicine 131B. The communication skills and patient interviewing course provides the first opportunity for students to interview medical patients in small group settings, guided by an experienced clinician. Issues addressed include: How a professional interchange differs from a social one, and how one's identity as a physician emerges.

PGY I Courses—The Department of Psychiatry is currently developing new courses for PGY I residents. Please refer to the quarterly Schedule of Classes for a listing of those courses in the 400 series.

100A. Psychological Basis of Medicine. (2) F. Lecture 2 hours. Seminar 1 hour. **Marmar**

Introduction to the basic psychological principles underlying response to the stress of illness and its treatment with emphasis on mental mechanisms, development, death and dying, and various types of doctor-patient relationships. **PSYCHIATRY**

100B. Illness Behavior. (1) W. Seminar 2 hours. **Brodsky, F. Cohen**

Introduction to psychological principles influencing health behaviors and the physician-patient relationship. Presentation of the social and cultural factors that affect patients' health and illness behavior when well, when they fear illness, when ill, during rehabilitation and after recovery. **PSYCHIATRY**

110. Psychiatry Core Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C, Psychiatry 100A, 100B and 131A-B. Open to UCSF students only. **H. H. Goldman**

Four-week assignment to a psychiatric service at *UC, SFGH, VA, MZ* and *L*. Students, under supervision, are responsible for patient evaluation and participation in treatment planning. They attend seminars related to clinical work, and make field visits to other types of psychiatric facilities. **PSYCHIATRY**

131A-B. Intro to Clinical Psychiatry. (2-2) W, Sp. Lecture 1 hour. Seminar 2-3 hours. **S. Purcell**

Introduction to clinical psychiatry with particular emphasis upon knowledge important in general medical practice. Course format includes lectures, small group teaching, interviewing patients, syllabus reading, and

the use of clinical videotapes and film. **PSYCHIATRY**

135. Psychiatric Aspects of Med Prac. (0) Su, F, W, Sp. Prerequisite: Satisfactory completion of the first and second years in the School of Medicine as specified in the prerequisite for the 110 clerkships listed below. Clinical seminar 2 hours. **H. H. Goldman, Plotinsky**

The Psychiatric Aspects of Medical Practice is a weekly two-hour clinical seminar, and a required part of the following clerkships: Family and Community Medicine 110, Medicine 110, Neurology 110, Obstetrics, Gynecology and Reproductive Sciences 110, Pediatrics 110 and Surgery 110. **PSYCHIATRY**

140.01. Advanced Psychiatry Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry. **Boatman and Staff**

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. Seminars, assigned reading and case presentation may be required. **PSYCHIATRY**

140.02. Off-Campus Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry. **Boatman**

Clinical clerkship in off-campus hospitals, approved by the chairperson of the department and the dean. **PSYCHIATRY**

140.04. Adv Psychiatry Clkshp—VAF & VMC. (1½ per week) Su, F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry. **Zil**

Clinical clerkships based in a variety of community settings. Course includes working with patients and families and emphasizes preventive, rehabilitative and consultative services, especially to underserved rural and minority populations. **PSYCHIATRY**

140.05. Clinical Psychiatry. (1½ per week) Su, F, W, Sp. Prerequisite: Consent of Department of Psychiatry. **Boatman and Staff**

Participation, under close supervision in accordance with students' 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 and Staff**

Participation according to students' level of experience in experimental work in areas such as neurophysiology, operant conditioning, psychophysiology, immunochemistry, and nonlexical communication. All work is under the close supervision of members of the faculty. **PSYCHIATRY**

150.03. Human Sexuality. (1½ per week) Su, Sp. Prerequisite: Psychiatry 180 and consent of Department of Psychiatry. **Gendel**

Effect of sex roles, self-esteem, attitudes and values of clinician on treatment of sexual problems. Case studies, role play, group discussion, film, art and music are used to develop skills in introductory sex counseling. Special readings assigned; project is optional. **PSYCHIATRY**

160.01. Speech & Lang Psychopathology. (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**

160.07. Outpatient Psychotherapy. (2-7) Su, F, W, Sp. Prerequisite: Psychiatry 110 and

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**

160.11. Psychotherapeutic Interview Tech. (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**

160.14. Health Aspects of Human Sex. (2) F. Prerequisite: Consent of Department of Psychiatry and consent of instructor. Lecture 16 hours plus seminar 6 hours total given during the quarter. **Gendel**

A consideration of sexuality as an integral aspect of general health. Emphasis is on accuracy of information regarding the range of human sexual behavior, and the typical sexual concerns of patients. **PSYCHIATRY**

160.17. Sexuality & Disability. (1) Sp. Prerequisite: Psychiatry 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. Intro to 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. (1-6) F, W, Sp. Prerequisite: Psychiatry 110 and consent of Department of Psychiatry. Lecture 1-6 hours. **H. H. Goldman**

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 students' level of interest and experience. **PSYCHIATRY**

170.06. Human Sexuality Research. (2) Su, F, W, Sp. Prerequisite: Psychiatry 160.14 or 180; and consent of Department of Psychiatry. Lecture 1 hour. Lab 3 hours. **Gendel**

Collaboration or directed research in various topics related to human sexuality. **PSYCHIATRY**

170.07. Social-Physical Deprivation. (2) § W. Prerequisite: Consent of Department of Psychiatry. Lecture 2 hours. **H. Schlesinger**

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**

170.16. 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. **Gendel**

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**

170.17. Issues in Psychiatry. (1½) F, W, Sp. Prerequisite: Consent of Department of Psychiatry. Seminar 1½ hours.

H. H. Goldman, Zegans and Staff

Course is a seminar for exploring and surveying current issues in psychiatry. Each week an assigned paper will be discussed by students, seminar leaders and an occasional guest discussant. Topics will include current research, new theories, social issues and clinical innovations. PSYCHIATRY

170.18. Psychotherapy Research. (3) Sp. Prerequisite: Course in statistics and consent of Department of Psychiatry. **M. Horowitz**

Participation in research activities at the Center for the Study of Neuroses. Lectures, laboratory, individual guidance to readings, and patient observation are included. PSYCHIATRY

180. Human Sexuality & Medical Prac. (2) W. Seminar 2 hours. **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 and 100B or equivalent psychiatry experience, and consent of Department of Psychiatry. Consent of instructor for graduate students. Seminar 1½ hours. **Hartog**

Seminars explore the field of transcultural psychiatry, ranging from entering the alien community, culture shock, and epidemiology, to folk healing and cross-cultural psychotherapy. Relevance to American urban and ethnic issues discussed. Examples, problems, methodology, and possibilities of research also presented. PSYCHIATRY

198. Supervised Study. (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. (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 Hlth-Out-patient. (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. **J. Nichols**

Supervised experience in diagnosis and treatment planning for psychiatric outpatients in community settings. Students are responsible for evaluations, psychotherapy, treatment planning, psychiatric and community consultation, and medical management. Instruction in all areas via outpatient meetings, rounds, case conferences and seminars. PSYCHIATRY

201A-B-C-D-E-F-G-H-I. Mental Hlth-Children's Serv. (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. **McClure**

Supervised experience in provision of psychiatric services for children. Course includes case conferences and seminar, diagnostic evaluations, treatment planning, ongoing therapy of children and their families, and consultation to community agencies, schools and pediatricians. PSYCHIATRY

202A-B-C. Mental Hlth-Inpatient. (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. **Hewitt**

Under supervision, students assume responsibility for psychiatric patients on community inpatient services. Course includes individual, group, family and milieu therapy, patient advocacy, community liaison and follow-up care, administrative and staff issues in patient management and related seminars. PSYCHIATRY

203A-B-C. Mental Hlth-Emer Serv. (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. **Hewitt**

Supervised experience in community mental health emergency services. Course includes crisis evaluation, disposition and treatment planning with community agencies, instruction in community mental health systems, health needs of minorities, crisis intervention, brief psychotherapy, use of psychoactive medications and related seminars. PSYCHIATRY

204A-B-C. Mental & Psychological Issues. (3-3-3) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor. Seminar 3 hours. **B. Diamond**

Theoretical exploration of psychiatric and psychological issues in medical care and biomedical issues in psychiatric care. Course includes lecture and discussion of selected readings in the field. To be taken concurrently with the 200 clinical series. PSYCHIATRY

205. Mental Hlth Law & Social Policy. (2) § F Prerequisite: Fifth-year standing in the Doctor of Mental Health Program. Lecture 2 hours. **B. Diamond**

Legal aspects of mental health care reflecting social, political policies towards mentally ill.

Discussion of controversial issues: confidentiality, responsibility of psychotherapist for patients' acts, dangerousness, involuntary hospitalization, right to treatment, informed consent, mental health ghettos, criminal responsibility, other selected topics. PSYCHIATRY

206. Current Issues Mental Hlth Lit. (1) § W, Sp. Prerequisite: Enrollment in the Doctor of Mental Health Program. Other students may enroll with consent of instructor. Seminar 1 hour. **B. Diamond**

Presentations of current articles of significant developments in mental health principles and practices. Emphasis will be on new and controversial issues. PSYCHIATRY

208. Psychol Aspects of Neurol. (2) § F, W, Sp. Prerequisite: Graduate standing in the Doctor of Mental Health Program. Other students may enroll with consent of instructor. Lecture 2 hours. **Hausner**

Review of the psychological aspects of the major neurological disorders with emphasis on behavioral correlates of organic processes, differential diagnosis, clinical pharmacology, and neuropsychological testing. PSYCHIATRY

211. Theory of Mental Hlth Practice. (1-5) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 1-5 hours. **L. J. Epstein, Weinshel**

Directed reading and small group seminars regarding models of understanding and intervention in emotional disturbance. PSYCHIATRY

214. 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. (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. **B. Diamond**

Students, with faculty approval, select particular areas of 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

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. **E. Burke**

Focus is on personality theories other than Freudian, such as Piaget, Skinner, and Rogers. Course includes an examination, study, and discussion of contemporary personality theories, their concepts, systematic application to the behavioral sciences, and research potentials. Parallel reading is required. PSYCHIATRY

405. Personality Assessment. (1) W, Sp. **J. Fisher, E. 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

407. Behavioral Science Research. (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

408. Theory of Psychotherapy. (1½) Sp. Prerequisite: Resident in Department of Psychiatry or consent of instructor. Seminar 1½ hours. **M. Horowitz**

Course provides a framework for residents which will enable them to take a systematic and rational approach in evaluation of various psychotherapies, including a method of assessing the conceptual consistency and validity of a given approach. PSYCHIATRY

409. Neuropathology. (4) Su, F, W, Sp. Lecture 4 hours. **Malamud**

Discussion of 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, F. 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

419. Child Development & 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

421. Cult Source West Concepts Pers. (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

423. Intro to Clinical Research. (1) W. Prerequisite: Psychiatry Resident II standing. Seminar 1 hour.

Zegans, Temoshok

Course will introduce residents to clinical research as an essential body of knowledge and skills which can be integrated into present and future clinical work. Consideration of research within four broad paradigms: intrapsychic, sociocultural, behavioral psychological, and psychobiological. PSYCHIATRY

424. Res 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

426. Evaluation Seminar. (1½) F, W, Sp. Prerequisite: Advanced trainee standing only;

interns, residents, doctoral level. Seminar 1½ hours.

R. Lieberman

Evaluation seminar to promote skill in developing dynamic treatment. Trainees will become knowledgeable about philosophy and function of basic principles; are required to demonstrate and justify feasibility and desirability of plan. 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. Sex Counseling Practicum. (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. Child & Adolescent Conference. (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

435. Psychoanalysis & Social Science. (2) F. Prerequisite: Background in psychoanalytic and sociological theories. Consent of instructor. Seminar 2 hours.

R. S. Wallerstein,

Smelser

Exploration of the more successful articulations between the psychoanalytic and sociocultural paradigms, making use of classical theoretical statements, studies of social traumas and catastrophe, political biography, organizational and institutional behavior, and cultural productions. PSYCHIATRY

436. Social & Community Society. (½) F, W, Sp. Prerequisite: Psychiatry Resident III standing. Seminar 1½ hours.

F. A. Johnson
Course introduces residents to various aspects of social and community psychiatry. Topics include social psychiatry prior to 1950, development of community mental health programs in the U. S., related social sciences, and current developments in the field. PSYCHIATRY

444. Psychobiography & Pathography. (2-5) F, W, Sp. Lecture 2-5 hours.

Ostwald

Course emphasizes the effects of mental illness on the lives of artists, scientists, statesmen, and other public figures. Biographical, autobiographical, and clinical studies of exceptional people will be compared. Students will be encouraged to select individual subjects for research. PSYCHIATRY

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 *LPPI, 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

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

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. Dreams from the Jungian Perspec. (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. Jungian Perspective Case Conf. (1) F, W, Sp. Prerequisite: Consent of instructor. Conference 1 hour. Enrollment limited. Priority given to second-year residents.

Goodheart

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. Adult Continuous Case Conference. (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. Theory of Psychotherapy. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

M. 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 Therapy Videotape Demo. (1) F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour.

D. Farrell

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 Psychopath/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 & Behavior Therapy. (1) F, W, Sp. Seminar 1 hour. Required for third-year residents in psychiatry.

Zeitlin,

Hatcher, L. Sachs

Seminar covering family, group, and behavior therapy. Both theoretical and technical issues will be presented with case illustrations where appropriate. PSYCHIATRY

465. Psychoanalytic Theory. (1) F, W, Sp. Seminar 1 hour.

Baumbacher

Seminar offers instruction in the theoretical bases of psychoanalysis. 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

469. Speech Hearing & 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 & 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

473. The Seriously Disturbed Patient. (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. Psychotherapy Videotape Demo. (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

476. Growth & 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. **R. Shore**

Examination of neurotic and character disorders from a psychodynamic perspective. PSYCHIATRY

480. Intro 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

482. Beh Mod in Child Psychopathol. (1) F Prerequisite: Consent of instructor. Lecture 12 hours for four weeks. **D. Morrison, S. Friedlander**

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. Res Methodology in Child Psychr. (1) F Prerequisite: Consent of instructor. Lecture 12 hours for four weeks. **D. Morrison, S. Friedlander**

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 LPPi 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. **Lannon**

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

487. Brief Psychotherapy. (2) Su, F, W, Sp. Prerequisite: Graduate clinical trainee standing at SAGH, or consent of instructor. Lab 3 hours. Seminar 1 hour. **E. Burke, Zilberg**

Review of the literature on psychodynamically oriented brief psychotherapy during the first half of the semester, and review of completed cases during the second half. PSYCHIATRY

488. Development. (1) W, Sp. Prerequisite: Psychiatry Resident II standing. Seminar 1 hour. **Huntington, I. Kaufman**

Course is a detailed study of development beginning with infancy. Representative theoretical models are used with emphasis on actual observation. PSYCHIATRY

Psychology**170. Patient Compliance.** (2) § F 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. Commun in Health Transactions. (2) W, Sp. Prerequisite: Consent of instructor. Lecture 1 hour. Lab 3 hours. Enrollment limited. **Gerbert, 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

180.01. 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. Psychol Aspects of Treatmnt Plan. (1) Sp. Seminar 1 hour. **Plainfield**

This course integrates students' basic training from the specialty courses in dentistry with knowledge of the psychological considerations necessary to individualize treatment. Appropriate treatment may then be planned

to the practitioners' awareness of the unique needs of patients. GEN DENT

180.03. Adv Psychol for Dental Hygiene. (1) Sp. Seminar 1 hour. **Plainfield**

Seminar discussions on the emotional aspects of interpersonal transactions among office personnel, therapists, and patients. GEN DENT

180.04. Neurophysiological Mech of EEG. (3) § W. Prerequisite: Course in physiological psychology or neurobiology, or consent of instructor. Lecture 1 hour. Seminar 2 hours. **Yingling**

Course will examine the neuroanatomical and neurophysiological mechanisms underlying the generation and regulation of EEG and event-related potentials, their measurement and clinical uses. Emphasis on the nature and limitations of inferences concerning brain activity obtainable from scalp recordings. PSYCHIATRY

180.05. Stress among Hlth Professionals. (2) § Sp. Seminar 2 hours. **Garfield**

Course will focus on a theoretical understanding of the origins of job stress and the nature of burnout, and on practical and programmatic methods of reducing the stress overload incurred by physicians, nurses, and other health care professionals. PSYCHIATRY

180.06. Behavioral Medicine Seminar. (1½-3) § F, W, Sp. Prerequisite: Experience and/or course work in either research methods or clinical theory and intervention. Consent of instructor. Lab optional. Seminar 1½ hours. **Temoshok**

Participants and invited guests will present their in-progress research ideas and proposals, data analyses, and/or manuscript drafts for critique. Clinical research in behavioral medicine literature will also be discussed. PSYCHIATRY

180.07. Medical Decision-Making. (2) § Sp. Lecture 2 hours. **P. J. Hoffman**

Review of selected studies drawn from decision analysis and judgment research literature. Subjective probability estimates, confidence, bias, and diagnostic accuracy; Bayes optimal strategies; computer-aided diagnosis; medical schools' admission decisions; judgments of clinical competence and administrative decision-making. PSYCHIATRY

180.08. Brain Behavior Research Methods. (3) § W. Prerequisite: Psychology 231 or equivalent. Lecture 2 hours. Seminar 1 hour. **Galin and Staff**

An extensive survey of techniques and strategies emphasizing critical appreciation of principles and range of appropriateness rather than how-to-do-it. Topics include clinical lesion studies, microscopic anatomy, neuroradiology, neurochemistry, psychopharmacology, autonomic psychophysiology, scalp electrophysiology, behavioral genetics, neuropsychological assessment. PSYCHIATRY

181.02. Cerebral Hemispheric Spec. (2) § Sp. Prerequisite: Background in neurophysiology, anatomy, cognitive psychology; intended for advanced students. Consent of instructor. Seminar 2 hours. **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

181.05. Changing Health Behaviors. (1-2) § Sp. Seminar 1-2 hours. **J. B. Henderson**

An overview of learning theory and the principles of behavior change. Clinical and research examples of treatment approaches to obesity, smoking cessation, eating disorders, adherence to medical instructions, and other health behaviors. PSYCHIATRY

181.07. Coping with Stress in Med School. (1) § F, W, Sp. Seminar 1 hour. Enrollment limited. Priority given to medical students. **Blackwell**

Consideration of psychological processes utilized under stress and of alternative constructive methods for coping, with practice in using these techniques. Course is designed to help students handle stress and apply such principles to management of patients. PSYCHIATRY

185. Nonverbal Communication. (1) § 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. (1-5) § F, W, Sp. **Staff**

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

200. Learning & Cognition. (4) § W. Prerequisite: Graduate standing in Health Psychology Program, or upper division courses in learning and cognitive psychology, and consent of instructor. Seminar 4 hours. Offered in alternate years. Offered 1983-84. **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. Comptr Simulation of Hum Interact. (3-3) § W, Sp. Prerequisite: Psychology 257 or equivalent. Lecture 1 hour. Lab 6 hours. **Starkweather**

The development and testing of theoretical models of personality are explored by means

of computer programs. Students program the computer for simulation and symbol manipulation. PSYCHIATRY

205. Child Development. (3) § Sp. Prerequisite: Consent of instructor. Lecture 3 hours. **C. Lewis**

Course will focus on major issues, theories, and findings in child development. Topics covered will include attachment; Piagetian and other theories of cognitive development; language development; moral development and pro-social behavior; aggression, and self-esteem and competence. PSYCHIATRY

210. Personality Psychology. (4) § F. Prerequisite: Consent of instructor. Lecture 4 hours. Offered in alternate years. Offered 1983-84. **F. Cohen**

General and systematic issues in the study of personality; theoretical and methodological issues in the assessment of personality and in research on personality. PSYCHIATRY

211A-B. 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 & Coping. (4) § W. Prerequisite: Consent of instructor. Seminar 4 hours. Offered in alternate years. Not offered 1983-84. **F. Cohen**

Course examines stress and coping theory and research from clinical, field, and laboratory settings; measures of stress; issues in stress research; the nature of coping and coping processes. PSYCHIATRY

213. Theories of Emotion. (1) § F, W, Sp. Prerequisite: Knowledge in at least one or two substantive areas such as social psychology, cognition, psychopathology, cultural anthropology. Seminar 2 hours biweekly. **Ekman, Temoshok**

Seminars will cover discussions of a variety of the theories and research concerned with emotion, such as definitions; expression behavior; physiological concomitants; relationships with cognition, consciousness and cultural philosophical implications; and biopsychosocial applications. Guest speakers included. PSYCHIATRY

220. Health Research Seminar. (1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Offered in alternate years. Offered 1983-84. **Attikisson (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. Prog Eval in Hlth & Human Serv. (2) § W, Sp. Prerequisite: Intended for graduate and professional students. Consent of instructor. Seminar 2 hours. **Attikisson**

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. Physl Aspects of Hlth Psychol. (4) § F. Prerequisite: Graduate standing in Health Psychology Program or consent of instructor. Lecture 4 hours. Offered in alternate years. Not offered 1983-84. **Naifeh, Yingling**

An overview of major organ systems of the human body stressing psychological impacts on their functioning and psychological consequences of abnormality. Course will prepare

student for reading medical literature and interacting effectively with health professionals in planning research. PSYCHIATRY

231. Introduction to Biopsychology. (3) § F. Prerequisite: Basic courses in experimental psychology and consent of instructor. Lecture 3 hours. **Herning**

Central nervous system mechanisms involved in sensory information processing and in the regulation of behavior will be emphasized. Elementary neurophysiology, anatomy and neurochemistry will be discussed as background material. PSYCHIATRY

232. Topics in Biological Psychology. (2) § Sp. Prerequisite: Physiological psychology, neurophysiology and neuroanatomy. Seminar 2 hours. **Salamy, Halliday**

A seminar course focusing on issues of current interest in biological psychology. Topics may include those such as brain electrical events, human neurodevelopment, cognitive processes. Individual presentations and discussion will be required. PSYCHIATRY

233A-B-C. Physiol/Biolog Psychopathol Sem. (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **Callaway**

An ongoing seminar devoted primarily to the research interests of the group studying human event related potentials. Course includes visiting scientists, as well as presentations by staff and postdoctoral fellows. PSYCHIATRY

234. Neurochem Basis of Abnor Psychol. (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. (2-2-2) § F, W, Sp. Lecture 2 hours. Lab 1 hour. **Kamiya**

Course considers the relationship among behavior, consciousness and physiological

processes as investigated through the study of the autonomic nervous system and the electroencephalogram. PSYCHIATRY

236A-B-C. Human Neurophysiology. (1-1-1) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. **Yingling**

A journal club format seminar course which will examine the current literature in human EEG and evoked potentials, with emphasis on identification of cerebral sources. Students will make oral class presentations. PSYCHIATRY

240. Social Psychology. (4) § F. Prerequisite: Consent of instructor. Lecture 4 hours. Offered in alternate years. Offered 1983-84. **N. Adler**

A critical review of social psychological theory and research. Topics include role theory, attribution theory, group dynamics, interpersonal relations, social influence, decision-making, attitude formation and change, and the application of social psychology to problems of health and health care. PSYCHIATRY

248. Independent Study. (1-6) § F, W, Sp. Prerequisite: Consent of instructor. **Staff**

Independent study under the supervision of a member of the faculty. PSYCHIATRY

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

254A. Research Methods. (4) § W. Prerequisite: Consent of instructor. Lecture 4 hours. Offered in alternate years. Offered 1983-84. **N. Adler**

An overview of research strategies and their associated strengths and weaknesses; experimental and quasi-experimental designs, correlational approaches, interview techniques, survey and questionnaire construction, uses of archival data, and observational techniques. PSYCHIATRY

254B. Research Methods. (4) § Sp. Prerequisite: Consent of instructor. Lecture 4

hours. Offered in alternate years. Offered 1983-84. **N. Adler**

An in-depth study of the research process with emphasis on quasi-experimental design, ethics of research and grant writing. PSYCHIATRY

257. Intro to Comptr for Beh Sci. (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. (4) § W. Prerequisite: Graduate standing in Health Psychology Program, or consent of instructor. Lecture 2 hours. Seminar 2 hours. Offered in alternate years. Not offered 1983-84. **Attikisson**

Function and tasks of the health system with emphasis on the study of health service organizations and health services delivery from the perspective of living systems theory and organizational psychology. PSYCHIATRY

262. Intro to Health Psychology. (4) § Sp. Prerequisite: Consent of instructor. Lecture 4 hours. Offered in alternate years. Offered 1983-84. **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 stress of illness. PSYCHIATRY

263A-B-C. Research Placement & Seminar. (4-4-4) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 1 hour. Lab 9 hours. Offered in alternate years. Not offered 1983-84. **N. Adler, Attikisson**

Students will be placed in an ongoing research project in which they will carry out an individual project. They will participate

in a current seminar, where research methods and strategies and problems of research will be discussed. PSYCHIATRY

265. Stress & Bodily Disease. (4) § Sp. Prerequisite: Consent of instructor. Seminar 4 hours. Offered in alternate years. Not offered 1983-84. **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 1983-84. **N. Adler**

Examination of the role that psychological and social factors can play in variety of reproductive behaviors: pregnancy, obstetrical complications, postpartum reactions, infertility, contraceptive use and nonuse, spontaneous and induced abortion. PSYCHIATRY

267. Psychology of Pain. (2) § F. Seminar 2 hours. Course will not be offered for fewer than 5 students. Offered in alternate years. Not offered 1983-84. **Piccione**

Overview of the psychology of pain and a systematic review of the literature from both clinical and laboratory work, with primary emphasis on the behavioral, cognitive, and motivational influences on pain. PSYCHIATRY

270A-B. Commun Skills in Health Trans. (2-2) § 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 1983-84. **Dienst, Gerbert**

A two-part course that teaches a number of skills involved in face-to-face interactions and prepares the student to do research on communication, and to teach the skills to others. PSYCHIATRY

280. Intro to Clinical Psychology. (3) § F Prerequisite: Psychology 210 or equivalent, and consent of instructor. Lecture 3 hours. Offered in alternate years. Not offered 1983-84. **F. Cohen, Friedlander**

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. Clinical Research Seminar. (1½-1½-1½-1½) § Su, F, W, Sp. Prerequisite: Consent of instructor. Seminar 1½ hours. **Attkisson**

Seminar discussions of contemporary research in clinical psychology. Issues covered include major problems in conducting clinical research, skills and methods required in clinical research, and career development for the clinical psychologist. Course is intended primarily for advanced clinical psychology students. PSYCHIATRY

282. 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

285A-B-C-D. Intermediate Family Therapy. (1½-3-3-3) § SS2, F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours. Four-quarter course. **Hatcher**

Stages in family development, communications analysis, role definitions, family myths, power and resistance systems, growth models of family therapy, and intervention techniques. Emphasis on clinical and practical issues, videotape presentations of families in treatment,

clinical supervision of ongoing cases. PSYCHIATRY

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

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

300. Teaching Practicum. (0) § F, W, or Sp. Prerequisite: Consent of instructor. Lecture and lab variable. **Staff**

Supervised classroom or tutorial teaching experience. PSYCHIATRY

Radiation Oncology

140.01. Radiation Oncology Clerkship-UC. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **T. Phillips**

Participation in examination of cancer patients under treatment in radiation oncology. Students participate in rounds, conferences and clinics, and see demonstrations on the use of newer radiotherapeutic techniques. RADIOLOGY

140.06. Radiation Oncology Clerkship-MZ. (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 chairperson of the department. Students work under close supervision of a member of the staff. RADIOLOGY

403. Radiation Oncology Grand Rounds. (1) Su, F, W, Sp. Lecture 1 hour. **T. Phillips**

Rounds include presentation of problem cases with discussions of diagnosis and treatment as well as biologic implications. Frequent guest lectures are used to cover important aspects of oncology. RADIOLOGY

404. Cancer Specialty Seminar. (3) Su, F, W, Sp. Seminar 3 hours. **T. Phillips**

Seminars include discussions of the diagnosis, treatment, and results of specialty oncology problems, including head and neck, gynecologic, otolaryngologic, pediatric, dermatologic, lymphomatous, and general malignancies. RADIOLOGY

415. Radiobiology Seminar. (1) F, W, Sp. Seminar 1 hour. **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. Therapeutic Radiol Treatment Plan. (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. Therapeutic Radiology Physics. (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. Intro to Clinical Radiology. (2) F, W, Sp. Prerequisite: Anatomy 100 and 103, Medicine 130, Pathology 102, and Psychiatry 130; concurrent enrollment in Medicine 131A-B-C. Lecture 1 hour. Lab 1 hour. **S. Ross**

Course provides instruction in basic aspects of therapeutic and diagnostic radiology and nuclear medicine. Illustration of diagnostic and therapeutic modalities in specific disease states provides instruction in use of radiologic resources. RADIOLOGY

140.01. Advanced Roentgen Diagnosis. (1½ per week) Su, F. Prerequisite: Radiology 140.15. Consent of instructor. **Margulis, S. Ross**

Advanced clinical clerkship for students interested in a career in academic radiology. Students observe clinical work, observe or participate in research, and write a term paper. RADIOLOGY

140.02. Off-Campus Clerkship. (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. Nuclear Medicine. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **Hattner**

Observation of basic nuclear medicine procedures and participation in diagnostic

tests employing radioisotopic tracers. RADIOLOGY

140.05. Diagnostic Radiology-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. 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. Diagnostic Radiology-SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Fourth-year standing or consent of instructor. **Minagi**

Students serve a clerkship in the Diagnostic Section of the Department of Radiology. They observe performance of radiologic procedures and interpretation of films, attend conferences, and learn basic philosophy of conducting radiologic examinations and the basic rules of interpretation. RADIOLOGY

140.13. Radiology & Medical Diagnosis. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 131A-B-C. **S. Ross, Margulis**

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

140.14. Diagnostic Radiology-VAF & VMC. (1½ per week) Su, F, W, Sp. Prerequisite:

Fourth-year standing, or third-year standing with consent of instructor. **M. Jones**

Acquaints students with available techniques in diagnostic radiology, including nuclear medicine, ultrasound, computed tomographic scanning, angiography, other special procedures, conventional X-ray examination, fluoroscopy, and provides an introduction to "routine" film interpretation. Students have assignments at VAF, VMC, community hospitals. RADIOLOGY

140.15. Diagnostic Radiology. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110. **Margulis, S. Ross**

Clerkship in radiology for fourth-year students. Observation of procedures, review of pathology, pathophysiology, diagnosis, and natural history of selected diseases through study of roentgenograms with case histories. Potentials and limitations of radiologic method included. RADIOLOGY

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 Application 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: Given concurrently with Radiology 170.09. Lecture 4 hours a week for 6 weeks. Independent study 10 hours.

Perez-Mendez

Introduction to the physics of radioactivity, nuclear instrumentation and gamma-ray imaging techniques. RADIOLOGY

170.09. Introduction to Nuclear Medicine. (3½) Su, F, W, Sp. Prerequisite: Given concurrently with Radiology 170.08. Lecture 5 hours a week for 6 weeks. Independent study 10 hours.

D. Price

Introduction to basic nuclear medicine diagnostic procedures, both *in vivo* and *in vitro*, and therapy with radiopharmaceuticals. RADIOLOGY

170.10. Radiologic Aspects of Surgery. (1) Su, F, W, Sp. Prerequisite: Third-year surgery. Seminar 1 hour.

Minagi, Laing

Weekly seminar covering the radiologic studies of surgical cases emphasizing indications, risks, and information derived from procedures. Active participation in X-ray interpretation is included. RADIOLOGY

170.11. Emergency Radiology. (1) Su. Lecture 1 hour.

Minagi

An elective course for fourth-year medical students. Consideration of the role of the radiologist as a consultant in the emergency room. Topics covered include head injuries, fractures, dislocations, chest, abdominal and genito-urinary trauma, and management of contrast reactions. RADIOLOGY

198. Supervised Study. (1-5) F, W, Sp. **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. (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. Radiol Physics for Physicists. (2) § F, W, Sp. Prerequisite: Bachelor's or higher degree in the physical sciences. **Staff**

Seminars provide physicists with an in-depth knowledge of radiological physics. RADIOLOGY

400. Diagnostic Radiology Seminar. (1) Su, F, W, Sp. Lecture 1 hour. **H. Goldberg**

Faculty from radiology and other departments lecture and discuss various diseases of all systems of the body. Residents prepare case histories stressing roentgen findings and correlative surgical and laboratory work, special studies, library, and film research. RADIOLOGY

401. Diagnostic Case Rounds. (2) Su, F, W, Sp. **Margulis, Gooding**

Films of interesting cases from the daily work are presented and reviewed. Roentgenograms of surgically and pathologically proved cases are correlated with the gross and microscopic pathologic findings. RADIOLOGY

402. Diagnostic Specialty Seminar. (3) F, W, Sp. Required for UC residents in diagnostic radiology. **Margulis**

*Seminars require preparation and presentation of roentgen findings on patients under discussion at medical, surgical, pediatric, obstetric and gynecologic departmental conferences and seminars on congenital heart disease, disease of the gastrointestinal tract, and orthopaedics. RADIOLOGY

403. Emergency Radiology. (1) F, W. Prerequisite: Required for first-year residents in radiology. Lecture 1 hour. **Minagi**

Role of radiologist as consultant in the emergency room; head injuries, fractures, dislocations, blunt and penetrating chest trauma, blunt and penetrating abdominal trauma, trauma to genito-urinary system; management of contrast reactions; indications for, conduction of, interpretation of special radiologic procedures. RADIOLOGY

405. Radiological Research. (1-8) Su, F, W, Sp. Elective. **Margulis**

Numerous research projects are conducted in the department and facilities are available for new ones. Residents are encouraged to take advantage of these opportunities. RADIOLOGY

408. Radiology Specialty Sem-SFGH. (3) Su, F, W, Sp. **Coulson**

Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. This course includes surgical and medical radiological rounds, consultative tumor board, clinicopathological conferences, and other department grand rounds. RADIOLOGY

409. Radiology Specialty Seminar-VA. (3) Su, F, W, Sp. Seminar 3 hours. **Akin**

Interdepartmental seminars in which the radiological picture of problem cases either of diagnostic or therapeutic nature is presented. These include medical-surgical, clinicopathological, chest, medical X-ray, rheumatology, neurology, and neurological surgery conferences; consultative tumor board; and surgical and orthopaedic grand rounds. RADIOLOGY

410. Radiat Effects on Genes & Chrom. (2) W. Prerequisite: Consent of instructor. Lecture 2 hours. **S. Wolff**

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

412. Pathology. (1) Su, F, W, Sp. **VA Hinchcliffe**

Course includes review of surgical pathology material and attendance at autopsy rounds. RADIOLOGY

414. Physics of Diagnostic Radiology. (2) W, Sp. Lecture 1½ hours. Lab 2 hours. **R. Gould**

Course is designed to acquaint residents with the physical principles of diagnostic radiology. Topics include generation and extraction of radiologic information, image conversion, recording methods, and special-purpose equipment. CT and ultrasound physics are discussed. RADIOLOGY

419. Growth Kinetics-Cells & Tumors. (2) Sp. Prerequisite: Consent of instructor. Lecture 2 hours. **Cleaver, Patt**

An analysis of cell population growth in tissues, tumors, and cultures. Emphasis is given to radioactive tracers such as thymidine and its biochemistry, and experimental methods for studying cell proliferation *in vivo* and *in vitro*. RADIOLOGY

420. Nuclear Medicine Seminar. (1) F, W, Sp. **Hattner and Staff**

Rotating assignments of topics for discussion by residents in nuclear medicine training programs in all affiliated hospitals. Critical reviews of available information in limited areas are used to provide a broad review of nuclear medicine for all trainees. RADIOLOGY

450. Clinical Nuclear Medicine. (1½ per week) Su, F, W, Sp. **Hattner and Staff**

Clinical experience in diagnostic and therapeutic nuclear medicine to satisfy require-

ments 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 Akin**

Residents, under supervision, are responsible for the diagnostic activities of the department, including diagnostic consultations and reports, history-taking, and physical examinations. In addition, the chief resident has certain administrative duties relative to the resident training program. RADIOLOGY

453. Clinical Radiology. (1½ per week) Su, F, W, Sp. Prerequisite: Radiology 450. **SFGH Coulson**

Residents are responsible for the diagnostic activities of the department under the direction of staff radiologists including diagnostic consultations and reports, history-taking, and physical examinations. RADIOLOGY

Removable Prosthodontics

109. Clinical Practice. (0-8½) F, W, Sp. Prerequisite: Third-year standing and satisfactory completion of all second-year courses and proof of competency. Clinic. **Firtell**

Clinical application of principles and techniques taught in Restorative Dentistry and Removable Prosthodontics courses 110B-C, 116B-C, 122, 123, 126.01, 126.02 and 126.03. RESTOR DENT

180. Prosthodontic Procedures. (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 & 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

182. Advanced Partial Denture Design. (1) Sp. Prerequisite: Completion of three removable partial dentures. Seminar 1 hour. **Firtell, Fitzloff**

Seminar to discuss and determine the reasons clinical cases failed and to recommend new treatment or design principles of routine situations, but unusual cases may be used to depict specific problems. RESTOR DENT

189.02. Complete Prosthodontics. (0-7½) SS2. Prerequisite: Fourth-year standing. Lab and clinic variable. **Firtell**

Work is done in a clinic location remote from the school or satellite clinics, such as California Veterans Home, Israel Project. For clinical work completed, credit will be given to satisfy part of the Removable Prosthodontics 109 requirement. RESTOR DENT

189.04. Clinical Maxillofacial Prosthodontics. (0-6) F, W, Sp. Prerequisite: Consent of instructor and Clinic Review Committee. Lab variable. **Firtell**

Senior dental 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

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

Staff

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

400. Approaches to Maxofac Prosthod.

(1) F, W, Sp. Lecture 1 hour. **Zlotolow**

Course is designed to acquaint residents with multidisciplinary aspects of maxillofacial prosthetics. Lectures will be given on maxillofacial prosthetic techniques, oncology, head and neck surgery, plastic surgery, oral surgery, therapeutic radiology, psychology and related oral biology. RESTOR DENT

489.01. Clinical Maxillofacial Prosthod.

(1-6) F, W, Sp. Lab variable. **Zlotolow**

Residents and advanced prosthodontic students will observe and perform maxillofacial prosthodontic services for patients in the Maxillofacial Clinic. A detailed case history will be required each quarter. Attendance at related tumor board conferences and field trips to other therapy centers. RESTOR DENT

Restorative Dentistry

109. Clinical Practice. (0-9) F, W, Sp. Prerequisite: Fixed Prosthodontics 109, Operative Dentistry 109 and Removable Prosthodontics 109. Clinic variable. **Brigante**

Students elect to complete requirements in any one or more of the divisions after satisfactorily completing all requirements in Fixed Prosthodontics 109, Operative Dentistry 109, and Removable Prosthodontics 109. RESTOR DENT

110A. Intro to Restorative Dentistry. (1½)

F. Prerequisite: Concurrent enrollment in

Restorative Dentistry 115A. Lecture 1½ hours. **Jendresen, Tueller, D. Graham**

An introductory lecture course including tooth morphology, development and form of primary and permanent dentition, and theory of cavity design and preparation. RESTOR DENT

110B. Intro to Restorative Dentistry. (3)

W. Prerequisite: Restorative Dentistry 110A. Concurrent enrollment in Restorative Dentistry 115B. **Jendresen, Hamaguchi, Harman**

Continuation of Restorative Dentistry 110A, including application of individual tooth and arch forms to interarch relationships; physics, chemistry, metallurgy of dental materials; physical and chemical effects of gypsum, cements, resins, waxes, colloids, metals; and introduction to complete denture prostheses. RESTOR DENT

110C. Intro to Restorative Dentistry. (4½)

Sp. Prerequisite: Restorative Dentistry 110B. Concurrent enrollment in Restorative Dentistry 115C. Lecture 4½ hours. **Jendresen, Radke, D. Graham, Firtell**

Continuation of Restorative Dentistry 110B, including physical and chemical responses to dental materials, principles involved in preparation, design, articulation, mounting, waxing, casting techniques for fixed prosthodontics; and biological background and clinical application of techniques used in complete denture prosthodontics. RESTOR DENT

115A. Intro to Restorative Techniques.

(0) F. Prerequisite: Concurrent enrollment in Restorative Dentistry 110A. Lab 12 hours.

Jendresen, Hamaguchi, D. Graham

An introductory laboratory course in restorative dental techniques. Topics include study of individual tooth form and relationship to adjacent and opposing structures and application of principles involved in cavity design and preparation. RESTOR DENT

115B. Intro to Restorative Techniques.

(0-8) W. Prerequisite: Restorative Dentistry 115A. Concurrent enrollment in Restorative Dentistry 110B. Lab 12 hours. **Jendresen, Hamaguchi, Harman**

Continuation of Restorative Dentistry 115A. Topics include dental and anatomical relationships within the dental arch and between opposing arches, elementary principles of complete denture prosthodontics, and laboratory exercises to demonstrate technical and clinical procedures in complete denture prosthodontics. RESTOR DENT

115C. Intro to Restorative Techniques.

(5) Sp. Prerequisite: Restorative Dentistry 115B. Concurrent enrollment in Restorative Dentistry 110C. Lab 15 hours. **Jendresen, Winters, D. Graham, Harman**

Continuation of Restorative Dentistry 115B. Topics include basic techniques in fixed prosthodontics, operative cavity design and preparation, and basic technical and clinical procedures in complete denture prosthodontics. RESTOR DENT

116A-B. Primary Clinical Care. (2-2) F, W

Lecture 1 hour. Clinic 3 hours. **Jendresen, Braly, Eakle**

Introduction to clinical dentistry: students perform a comprehensive baseline examination of the oral cavity and evaluation of the patient's health status. Students are introduced to infiltration local anesthesia, rubber dam application, making and mounting diagnostic casts, and chairside assisting. RESTOR DENT

120A. Restor Dent Techniques Theory.

(3) F. Prerequisite: Restorative Dentistry 110C and 115C. Concurrent enrollment in Restorative Dentistry 125A. Lecture 3 hours.

Jendresen, Sherraden, D. W. Martin, Firtell

Continuation of instruction in theory and principles of dental restorations, including fundamentals of bridge construction, ceramometal restoration, techniques in operative

dentistry, fundamentals of partial denture design, and construction of the partial denture. RESTOR DENT

120B. Restor Dent Techniques Theory.

(4) W. Prerequisite: Restorative Dentistry 120A. Concurrent enrollment in Restorative Dentistry 125B. Lecture 4 hours. **Jendresen, N. Nguyen, Lacy, Augsburg**

Theory and principles of dental restorations: rationale for use of clinical restorative materials, manipulation, clinical application of restorative systems; introduction to endodontics, background for clinical practice, continuing discussions of theory and principles in operative dentistry, fixed and removable prosthodontics. RESTOR DENT

120C. Restor Dent Techniques Theory.

(3) Sp. Prerequisite: Restorative Dentistry 120B. Concurrent enrollment in Restorative Dentistry 125C. Lecture 3 hours.

Jendresen, Lacy, T. Curtis, D. W. Martin

Theories and principles in biomaterials, endodontics, fixed prosthodontics, operative dentistry, removable prosthodontics are interrelated, and clinical application of principles is stressed. Students are instructed to vary routine treatment as necessary to handle problems of geriatric, immobile, bedridden, or institutionalized patients. RESTOR DENT

125A. Restorative Dental Techniques. (0)

F. Prerequisite: Restorative Dentistry 110C and 115C. Concurrent enrollment in Restorative Dentistry 120A. Lab 18 hours. **Jendresen, Sherraden, D. W. Martin, Firtell**

Laboratory instruction in the disciplines of fixed prosthodontics, operative dentistry, and removable prosthodontics. Topics include instruction in basic bridge construction, ceramometal restorations, cast gold restorations, and partial denture construction. RESTOR DENT

125B. Restorative Dental Techniques. (0-11)

W. Prerequisite: Restorative Dentistry 125A.

Concurrent enrollment in Restorative Dentistry 120B. Lab 15 hours. **Jendresen, N. Nguyen, Lacy, T. W. Wood**

Continuation of laboratory instruction in the disciplines of endodontics, fixed and removable prosthodontics. Techniques include laboratory procedures involved in root canal therapy, instruction in ceramometal restoration, and fabrication of immediate dentures. RESTOR DENT

125C. Restorative Dental Techniques. (4)

Sp. Prerequisite: Restorative Dentistry 125B. Concurrent enrollment in Restorative Dentistry 120C. Lab 12 hours. **Jendresen, Muncheryan, D. Graham**

Continuation of laboratory instruction in the disciplines of operative dentistry and removable prosthodontics. Techniques include restoration with condensed gold foil and fabrication of a complete denture. RESTOR DENT

126A-B-C. Clin Restor Dent Primary Care.

(1-1-1) F, W, Sp. Clinic 3 hours. **Jendresen, Braly, E. Maxwell**

Clinical experience in comprehensive case work-up of dental patients. Course includes case history, clinical examination, diagnosis, and treatment planning to meet the patient's total dental needs. RESTOR DENT

130.01. Clin Application of Techniques.

(1) SS1. Prerequisite: Restorative Dentistry 120C and 125C. Lecture 2 hours.

Jendresen, Meli

Introduction to work in the clinic. Emphasis is on application of techniques taught in the laboratories. Topics include diagnosis, occlusion, tooth preparation, and temporization. RESTOR DENT

130.02. Clin Application of Techniques.

(5) F. Prerequisite: Restorative Dentistry 130.01. Concurrent enrollment in Restorative Dentistry 109. Lecture 5 hours. **Jendresen, N. Nguyen, Tueller, Braly, A. Green**

Continuation of Restorative Dentistry 130.01, with emphasis on clinical application of restorative techniques. Topics include diagnosis and treatment of pulp disease, tooth preparation and impression materials, diagnosis and treatment of dental emergencies, and treatment planning for the edentulous patient. RESTOR DENT

130.03. Clin Application of Techniques.

(3) W. Prerequisite: Restorative Dentistry 130.02. Concurrent enrollment in Restorative Dentistry 109. Lecture 3 hours. **Jendresen, Tueller, Braly, Krol**

Continuation of Restorative Dentistry 130.02, with emphasis on clinical application of restorative techniques. Topics include temporary restorations and occlusal therapies, rationale of cutting techniques and pulpal response to restorative treatment, and treatment planning for removable partial dentures. RESTOR DENT

130.04. Clin Application of Techniques.

(3) Sp. Prerequisite: Restorative Dentistry 130.03. Concurrent enrollment in Restorative Dentistry 109. Lecture 3 hours. **Jendresen, Braly, Chierici**

Continuation of Restorative Dentistry 130.03, clinical application of restorative techniques. Topics include understanding why clinical failures occur with selected materials, biological responses to dental materials, pulp protection, pulpal response to treatment, and prosthetic treatment of patients with congenital or acquired malformations. RESTOR DENT

139. Clinical Restorative Dentistry. (0-10)

F, W, Sp. Prerequisite: Student must pass second-year qualifying examinations in the Department of Restorative Dentistry and be third-year student in good standing. Concurrent enrollment in Restorative Dentistry 130.01, 130.02, 130.03 and 130.04. Clinic variable. **Jendresen, Braly, Firtell, N. Nguyen, Tueller**

Clinical instruction and practice in the disciplines of endodontics, fixed prosthodontics, operative and primary care, and removable prosthodontics. Course is graded after student passes qualifying examinations at the end of Spring quarter, third year. RESTOR DENT

149. Clinical Restorative Dentistry. (0-22½) F, W, Sp. Prerequisite: Student must pass third-year qualifying examinations in the Department of Restorative Dentistry and be fourth-year student in good standing. Clinic variable. **Jendresen, Braly, Firtell, N. Nguyen, Tueller**

Clinical instruction and practice in the disciplines of endodontics, fixed prosthodontics, operative and primary care, and removable prosthodontics. Course is graded after student passes qualifying examinations at the end of Spring quarter, fourth year. RESTOR DENT

170A-B-C-D-E-F-G-H. Prosthodontics Literature Review. (0-4) A, E: Su. B, F: F, C, G: W, D, H: Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Seminar 1-4 hours. Two-year course. **T. Curtis, Radke**

Current and past prosthodontic literature will be studied and discussed. Students will learn to distinguish between appropriate, controversial, and inappropriate prosthodontics literature. RESTOR DENT

171A-B-C-D-E-F-G-H. Prosthodontic Treatment Planning. (0-2) A, E: Su. B, F: F, C, G: W, D, H: Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Lecture 1 hour. Seminar 1 hour. Two-year course. **T. Curtis, Radke**

A treatment plan will be discussed and developed for each patient after all diagnostic aids have been gathered. Students will be responsible for establishing an initial treatment plan prior to the seminar and for justifying it before the group. RESTOR DENT

172A-B-C-D-E-F-G-H. Prosthodontic Procedures. (0-2) A, E: Su. B, F: F, C, G: W,

D, H: Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Lecture 1 hour. Seminar 1 hour. Two-year course.

T. Curtis, Radke

Staff and program consultants will present lectures on various aspects of fixed and removable prosthodontics and related subjects on a graduate level. RESTOR DENT

174. Nutrition. (1) SS1. Prerequisite: D.D.S., D.M.D. or equivalent degree. Enrollment in a postdoctoral specialty program. Seminar 1 hour. **M. Wilkins**

Course will emphasize the dietary requirements for the geriatric prosthodontic patient. A dietary analysis of the student and a prosthetic patient currently under treatment will be required. RESTOR DENT

179.01A-B-C-D-E-F-G-H. Removable Prosthodontics Clinic. (0-5) A, E: Su. B, F: F, C, G: W, D, H: Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Clinic 15 hours. Two-year course. **T. Curtis**

Various types of removable prostheses will be fabricated using different techniques and treatment philosophies. RESTOR DENT

179.02A-B-C-D-E-F-G-H. Fixed Prosthodontics Clinic. (0-5) A, E: Su. B, F: F, C, G: W, D, H: Sp. Prerequisite: Enrollment in Postgraduate Prosthodontics Program. Clinic 0-15 hours. Two-year course. **Radke**

Fixed prosthodontics clinical procedures will be performed using a variety of treatment philosophies and articulating instruments. RESTOR DENT

189. Clinical Restorative Dentistry. (0-50) F, W, Sp. Prerequisite: All previous courses in Restorative Dentistry curriculum sequence. Clinic variable. **Jendresen, N. Nguyen, Tueller, Braly, Firtell**

Continuation of clinical experience at the level of Restorative Dentistry 149. RESTOR DENT

Sociology

126. Third World Families. (3) § F, W, Sp. 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 in the United States. SOC BEH SC

130. Sociocultural Variations in Hlth. (3) § W. Lecture 3 hours. **Schatzman**

Course addresses socio-cultural variations in health with implications for nursing practice. SOC BEH SC

134. Women's Roles in Health Care. (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 cross-cultural features of health care. SOC BEH SC

136. Management of Pain. (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

138. Sociology of Change in Hlth Care. (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

140. Introduction to Sex Roles. (2-4) F. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours. **Olesen, Lewin**

Examination of current theories about biological and evolutionary bases of gender stratification systems; their universal features and range of variation they exhibit. Interfaces between gender roles and economic, political, religious, and social organizational aspects of U.S. and other cultures explored. SOC BEH SC

160. Policy & Politics of Health. (3) § F, Sp. Lecture 3 hours. **Estes**

Course addresses the organization of health care and its politics, with emphasis on both United States and international health issues. SOC BEH SC

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

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

203. 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. Health Professions & Occupations. (4) § F. Seminar 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. Seminar engages in preliminary research into these topics. SOC BEH SC

207. Sociology of Health & Medicine. (4) § F. Prerequisite: Doctoral standing in the graduate program in Sociology. Seminar 4 hours. **Estes**

Introduction to the classical perspectives in medical sociology and development of a critical perspective in the field to serve as a foundation for independent and advanced study in medical sociology. SOC BEH SC

208. Social Psychol of Hlth & Illness. (3) § 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

209. Sociology of Power. (2-4) § F, W, Sp. Prerequisite: Advanced standing and consent of instructor. Lecture 2-4 hours. **Estes**

Survey of the classical and contemporary sociological issues in theoretical and empirical work on power; exploration of underlying assumptions and paradigms emerging and reflecting a sociopolitical milieu; students become familiar with literature and debates on power structure research and theory. SOC BEH SC

212A. Sociology Theory. (4) § F, W. Lecture 2 hours. Lab 6 hours. **A. Strauss**

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

212B. Sociology Theory. (4) § Sp. Lecture 4 hours. **Staff**

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. Participant Observation Studies. (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. Field Research. (3) § F, Sp. Prerequisite: Doctoral level. Lecture 2 hours. Lab 3 hours. **Olesen, J. B. Wood, Schatzman**

Sociological perspectives on the dimensions and properties of research in natural social settings. Focus upon developing skills in negotiating entree, in watching, listening, and in recording of data; emphasis upon developing conceptual schemata in preparation for analysis. SOC BEH SC

214B. Quantitative Analysis. (3) § W. Prerequisite: Doctoral level. Sociology 214A. Lecture 2 hours. Lab 3 hours. **Olesen, J. B. Wood, Schatzman**

Examination of modes of analysis applicable to qualitative data; emphasis on dimensions and properties exhibited in student-presented data. SOC BEH SC

214C. Qualitative Analysis. (3) § F, W, Sp. Prerequisite: Doctoral level. Sociology 214A and 214B. Lecture 2 hours. Lab 3 hours. **A. Strauss, J. B. Wood**

Qualitative analysis; the development of substantive and formal sociological theory. Emphasis on student-presented data and their conceptualization. SOC BEH SC

216. Comparative Organizations. (3) § F. 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. Future of the Family Seminar. (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 sociocultural forces. Special emphasis given to changing sex-role behavior as affecting male-female relationships. SOC BEH SC

218. Advanced Topics in Aging. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2-4 hours. **Estes, Newcomer**

The topics to be analyzed will vary each year with the instructor, but will be focused upon a specific area. SOC BEH SC

219. Social Policy & Aging. (2-4) § W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours. **Estes**

Critical analysis of major social, economic and political issues of growing old in America. Examination of social policy in the public and private sectors including health, income, and social services. Consideration of prospects for social change and political movements. SOC BEH SC

220. Sociology Seminar. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Required for graduate students in Sociology. Seminar 2 hours. Lab 0-6 hours. **Staff**

Doctoral student seminar to discuss methods and problems in current research. Course may be repeated for credit. SOC BEH SC

221A-B-C. Qualifying Examinations. (4-4-4) § A: F, W, Sp. B: F, W, Sp. C: F, W, Sp. Prerequisite: Preparation for qualifying examinations. Open to graduate students in Sociology only. **Staff**

Qualifying examinations for graduate students in sociology are given in three areas: sociological theory, medical sociology, and special interest. The course will provide for preparation in each area. SOC BEH SC

222. Planning in Human Services. (3) § Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 3 hours.

C. Harrington, Benjamin

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

223. Sociology of Public Policy. (2-4) § W. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours. **Estes**

Introduction to the social construction of policy. Examination of problems in design and implementation of policy, the influence of ideology, social class and interest groups, the role of planning and budgeting processes, and the sociology of expertise. SOC BEH SC

224. Epistemological Problems. (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

232. Adv Problems in Social Psychol. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Seminar 2-4 hours. **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

234. Health & Aging. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2-4 hours. **H. Lipton**

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

235. Family Behavior Health Factors. (3) § F, W, Sp. Prerequisite: Consent of instructor. Graduate standing. Lecture 2 hours. Lab 3 hours. **Staples**

Exploration of how marital and family behavior generates mental and physical health problems. Topics to be covered are family violence, child abuse, sexually transmitted diseases, suicide, psychological problems, and the relationship of marital status to morbidity and mortality. SOC BEH SC

236. Race/Class Factors in Hlth Care. (3) § W. Prerequisite: Consent of instructor. Graduate standing. Lecture 2 hours. Lab 3 hours. **Staples**

Examination of how racial and class membership impacts on access to health care services, variations in the quality of those services, how professional and subprofessional roles in the health care system are organized along racial and class lines. SOC BEH SC

237. History of Sociological Thought. (4) § F, W. Lecture 4 hours. **Schatzman**

Introduction to history of sociological thought. Objective of the course is to provide perspective and vocabulary for examining major schools of thought which constitute sociological tradition. Discussion of conceptual frameworks and their relationship to theory will provide understanding of sociological work. SOC BEH SC

238. Adv Women's Roles in Health Care. (2-4) § F, W, Sp. Lecture 2-4 hours. **Olesen**

Opportunity to work with both theoretical and research questions on the subject of

women's participation in health and healing systems. Critical questions on appropriate method, relationship to theory, and articulation of questions will be considered. SOC BEH SC

239. Field Research as Eval Method. (3) § F, W, Sp. Prerequisite: Sociology 214A and 214B. Lecture 3 hours.

Newcomer, Schatzman

Analysis of field work as evaluation method, as applied to health care settings and programs, contrasting this approach with quantitative methods predicated on analysis of outcomes. Conduct of such evaluative research, and relationship with audiences, such as policymakers, analyzed. SOC BEH SC

249. Special Studies. (1-8) § F, W, Sp. Prerequisite: Consent of instructor. **Staff**

Students select special problems to investigate on an individual or collaborative basis. These studies may be conducted through readings, the collection or analysis of empirical data, or the development of conceptual analysis or of methodologies. SOC BEH SC

250. Research. (1-8) § F, W, Sp. Prerequisite: Admission to doctoral study and consent of instructor. **Staff**

SOC BEH SC

251. Women's Health: Socio-Cultural. (2-4) § Sp. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours. Offered in alternate years. Offered 1983-84.

Olesen, Lewin

Exploration of relationship between culture and health for women in non-Western societies. Effects of modernization and migration on utilization of traditional and cosmopolitan health care and on women's roles as providers will be discussed, and contemporary controversies will be analyzed. SOC BEH SC

252. Women's Health: Socio-Historical. (2-4) § W. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours. Offered in alternate years. Offered 1983-84.

Olesen, Ruzek

Sociological analysis of women's health status, roles as providers and patients, and the development of medical ideas about women from a historical perspective. Emphasis on 19th and 20th century developments in industrialized societies. SOC BEH SC

253. Women's Health: Socio-Anthro. (2-4) § W. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours. Offered in alternate years. Not offered 1983-84.

Olesen

Issues in women's reproduction and sexuality, occupational health, and mental health over the life cycle examined from epidemiological, developmental, interactionist and political economy perspectives. Emphasis on applicability to policy, clinical practice, program evaluation and scientific theory building. SOC BEH SC

254. Women's Health: Policy Issues. (2-4) § Sp. Prerequisite: Consent of instructor. Lab 0-6 hours. Seminar 2 hours. Offered in alternate years. Not offered 1983-84.

Olesen, Ruzek, Lewin

Consideration of factors in the emergence of issues in women's health and related policy. Perspectives on women as policymakers and the implementation of policy on women's health, participation in care and healing systems and access to training. SOC BEH SC

255. Environmental Sociology. (2-4) § F, W, Sp. Prerequisite: Consent of instructor. Lecture 2 hours. Lab 0-6 hours. **Olesen**

Sociological analysis of health-related issues emergent from considerations of housing, occupation, urban contexts. Review of concepts of territoriality, privacy and ecology. Perspectives on social construction of environmental and energy issues and policies. SOC BEH SC

256. Introduction to Survey Research. (3) § F. Prerequisite: Doctoral level. Biostatistics 181 or equivalent. Lecture 3 hours.

Newcomer

An introductory course in sample theory, sample development, and methods of survey research. Course will include analysis of appropriateness, cost, and limitations of various methods. The course will provide rudimentary skills for those conducting research and large field surveys. SOC BEH SC

257. Aging & Racial Minorities. (3) § W. Lecture 2 hours. Field work 3 hours.

Staples

Emphasis is on aging process among minorities (Blacks, Asians, Hispanics, Native Americans): how different socioeconomic conditions and cultural values affect the social role of the elderly and their health status, and the effects of public policy on aging minorities. SOC BEH SC

258. Race, Ethnicity & Gender Roles. (3) § Sp. Lecture 2 hours. Field work 3 hours.

Staples

Exploration of sociocultural forces and how they have shaped gender roles among different racial and ethnic groups. SOC BEH SC

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

For graduate students engaged in writing the thesis for the master's degree or taking a comprehensive examination required for the master's degree. 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. Fundmntl of Auditory Neurobiol. (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

211. Instrumentation for Research. (4) § Sp. Prerequisite: Knowledge of one higher-level computer programming language, and consent of instructor. Lecture 2 hours. Lab 6 hours. Offered in alternate years. Not offered 1983-84. **Staff**

Review of major instrumental approaches to study of speech and hearing, including design and operation of acoustic research equipment, use of specific computer software, preparation of tissue for histological research, and other approaches to research in speech and auditory physiology. OTOLARYN

220. Inner Ear Anatomy. (3) § F, W, Sp. 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

221. Electrophysiology & Audiology. (4) § F Prerequisite: Consent of instructor. Lecture 3 hours. Lab 3 hours. **Gardi and Staff**

Review of the development of electrophysiological approaches to studying auditory functions with particular emphasis on auditory-evoked response measurement. Lectures and laboratory exercises will stress equipment design and calibration, data collection, analysis, and interpretation. OTOLARYN

222. Auditory Psychophys & Physiol. (3) § Sp. Lecture 3 hours. **Staff**

A coordinated coverage of basic auditory function. The physiology of the peripheral auditory system and basic perceptual correlates. Physics of sound, cochlear mechanics and microphonics, VIII nerve physiology, thresholds, masking, pitch, loudness, temporal adaptation, frequency analysis, binaural perception, and processing are included. OTOLARYN

230. Speech Reception Research Sem. (3) § F 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. Speech Production Research Sem. (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

234. Auditory Psychophysics. (3) § W. Prerequisite: Consent of instructor. Lecture 3 hours. **M. W. White**

Review of the current literature in psychoacoustics and its relationship to current auditory coding theories. Study of peripheral auditory processing of the speech signal is also included. OTOLARYN

247. Special Studies. (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. **Staff**

Students and instructor develop jointly a study plan involving tutorials, reading, and laboratory work. Students engage in intensive exploration of specific topics related to the anatomic, physiologic, psychophysical, and behavioral aspects of the speech and hearing sciences. OTOLARYN

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

Flower, Owens, Merzenich
Research for the Ph.D. dissertation. OTOLARYN

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

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

Surgery

110. Surgery Core Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110.

Elbert, Trunkey, 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. Advanced Surgery Core Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 110.

T. Hunt, Hohn
Students are senior clerks on wards, in operating rooms at UC, SFGH and VA. Rounds, seminars focus on physiological approach to surgery. Clinical clerkships in surgical specialties may be taken with prior approval of

specialty department and Department of Surgery. SURGERY

140.01. Advanced Surgery Clerkship. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. **T. Hunt, Trunkey, 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. Off-Campus 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 chairperson 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. **Effency**

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, 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. Emergency Medicine-SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Core curriculum in basic sciences and Medicine 110 or Surgery 110 and 111. **F. Lewis**

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 & 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-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. Trauma Surgery-SFGH. (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. 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-SFGH. (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. Adv Plastic & Recons Surgery. (1½ per week) Su, F, W, Sp. Prerequisite: Medicine 110 and Surgery 111. **Vasconez, Mathes, Walton**

Participation in clinical activities of plastic surgery. Students work on patients and take part in operative procedures, as well as manage the postoperative patient. Exposure to patients with general reconstructive problems; trauma to head and neck, hand surgery, and congenital anomalies. SURGERY

140.13. General Surgery-VAF. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110 and 111. **O'Hara**

Students receive broad clinical experience in general surgery at VAF and with practicing surgeons in selected community settings in the central San Joaquin Valley. Balance between VAF and community assignments is individually arranged according to students' interests. SURGERY

160.03. Cardiopulmonary Surgery. (2) Sp. Prerequisite: Third- or fourth-year standing. Lecture 2 hours. **Ebert, B. Roe, J. Hutchinson**

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. (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. (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

198. Supervised Study. (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. (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 Surgery Staff Conf. (1½) F, W, Sp.

UC Ebert,

SFGH Trunkey, VA L. Way

Conferences include presentation of case studies with reference to the literature, case records, laboratory tests, and special studies. Faculty and occasional guest lecturers discuss surgical problems. Death and complications are reviewed weekly. SURGERY

402. General Surgery Pathology Sem. (1) F, W, Sp. Interns and residents. **McKerrow**

Seminars include case reports and demonstrations of the currently available gross and microscopic surgical pathological material from the operating rooms and pathology laboratories. SURGERY

403. General Surgery Seminar. (2) Su, F, W, Sp. Interns and residents. **RDMC Heer,**

SFGH Trunkey, 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 Trunkey,**

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 Surgery Laboratory. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 450 and 452 may not be taken concurrently. **UC Ebert, SFGH Trunkey,**

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 Experimental Surgery. (10) Su, F, W, Sp. **Ebert**

Assistant residents in off-campus hospitals approved by the chairperson of the department and the dean. Course includes clinical and experimental investigations of general surgical problems and the development of technical and laboratory methods to be applied in surgery. SURGERY

490. Clinical Surgery—SFGH. (1½ per week) Su, F, W, Sp. **SFGH Trunkey**

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. Educational Technology. (1) F, W, Sp. Prerequisite: D.D.S. degree. Seminar 2 hours. **Staff**

Course provides resource information in the form of a systematic overview of educational technology. This information is introduced in conjunction with the development by the individual student of an actual micro-course, teaching a single skill. GEN DENT

176. Practice Teaching. (1) F, W, Sp. Prerequisite: D.D.S. degree. Clinic 3 hours. **Staff**

Practical teaching experience in selected courses under the supervision of members of the staff. GEN DENT

186.01A-B-C. Practice Teaching. (0-3, 0-3, 0-3) F, W, Sp. Lab 3 hours. **Staff**

Practical teaching experience in selected courses under the supervision of senior members of the staff. GEN DENT

Urology

Core Clerkship—Surgery 110 includes clinical clerkships in the outpatient clinics and hospitals, assistance at operations, and participation in residents' seminars.

140.01. Advanced Urology Clerkship—UC. (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. Off-Campus 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. Advanced Urology Clerkship—VA. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110. **R. D. Williams**

Students work as interns on the Urology Service at VA. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

140.04. Advanced Urology Clerkship—SFGH. (1½ per week) Su, F, W, Sp. Prerequisite: Surgery 110. **McAninch**

Students work as interns on the Urology Service at SFGH. They also attend rounds and scheduled seminars with residents and visiting staff. UROLOGY

170.01. Fundamentals of Urology. (2) F, W, Sp. Prerequisite: Consent of instructor. **Tanagho and Staff**

Seminar and library research. UROLOGY

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

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

400. Urology Seminar. (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 Conf. (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 R. D. Williams

First-year residents care for patients in the wards and outpatient clinics. Second- and third-year residents, under supervision, perform instrumental examinations on clinic patients. Senior residents, under supervision, perform instrumental and surgical procedures and have administrative, clinical, and teaching responsibilities. UROLOGY

490. Clinical Urology—SFGH. (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