512. Small Animal Surgery and Medicine II
Winter, Summer. 7(6-3) 511.
Diseases of musculoskeletal, digestive and respiratory systems. Includes radiology and surgical laboratory with demonstrations.

513. Small Animal Surgery and Medicine III
Fall, Spring. 7(7-0) 512.
Diseases of urogenital, endocrine, cardiovascular, hematopoietic and integumentary systems and specific infectious diseases. Includes radiographic and surgical techniques.

601. Small Animal Clinical Surgery
Fall, Winter, Spring, Summer. 6(0-18)
Veterinary Medicine students in terms 9, 10, 11 electing Large Animal or Non-Practice option and approval of department.
Diagnosis, prognosis, treatment, and prevention of disease through handling of clinic patients under direct supervision of faculty and staff. Clinical rotation includes general medicine and selected specialty sections.

602. Small Animal Clinical Surgery
Fall, Winter, Spring, Summer. 6(0-18)
Diagnosis, prognosis, treatment, and prevention of disease through handling of clinic patients under direct supervision of faculty and staff. Clinical rotation includes general surgery and selected specialty sections.

603. Small Animal Clinical Surgery
Fall, Winter, Spring, Summer. 12(0-36)
Diagnosis, prognosis, treatment, and prevention of disease through handling of clinic patients under direct supervision of faculty and staff. Clinical rotation includes general surgery and all specialty sections.

604. Small Animal Clinic II
Fall, Winter, Spring, Summer. 12(0-36) 504.
Concepts and practices of clinical veterinary medicine. Rotation through hospital services. Diagnosis, prognosis, treatment, and prevention of disease through handling of clinic patients under direct supervision of staff veterinarians.

611. Small Animal Clinical Medicine
Fall, Winter, Spring, Summer. 3(0-9)
Diseases of musculoskeletal, digestive and respiratory systems. Includes radiology and surgical laboratory with demonstrations.

612. Small Animal Clinical Medicine
Fall, Winter, Spring, Summer. 6(0-18)
Veterinary Medicine students in terms 9, 10, 11 electing Mixed-Practice option and approval of department.
Diagnosis, prognosis, treatment, and prevention of disease through handling of clinic patients under direct supervision of faculty and staff. Clinical rotation includes general medicine and selected specialty sections.

613. Small Animal Clinical Medicine
Fall, Winter, Spring, Summer. 12(0-36)
Veterinary Medicine students in terms 9, 10, 11 electing Small Animal option and approval of department.
Diagnosis, prognosis, treatment, and prevention of disease through handling of clinic patients under direct supervision of faculty and staff. Clinical rotation includes general medicine and all specialty sections.

614. Small Animal Surgery and Medicine IV
Winter, Summer. 3(3-0) Sixth-term Veterinary Medicine students.
Occurrence, etiology, symptomatology, diagnosis, treatment and prevention of diseases of nervous system, organs of special sense, physical and chemical agents and neoplasia.

618. Special Problems in Clinical Medicine
Fall, Winter, Spring, Summer. 3(0-9) to 12(0-36) May re-enroll for a maximum of 12 credits. 611 or 612 or 613 and approval of department.
Advanced undergraduate training in clinical medicine under direct supervision of faculty and staff.

620. Small Animal Focal Problems
Fall, Winter, Spring, Summer. 2(0-6) to 4(0-12) May re-enroll for a maximum of 12 credits. Concurrent enrollment or previous completion of 601, 611, or 620, 612, 621; or 603, 613; and approval of department.
Case oriented problem solving through faculty-staff-student group discussions and seminars.

651. Clinico-Pathologic Conference
Fall, Winter, Spring, Summer. 0 or 1(1-0) May re-enroll for a maximum of 2 credits. Professional Veterinary Medicine students.
Clinico-pathologic conference on selected clinical cases. Students will have required to enroll each term (first nine terms) without credit in terms ten and eleven for 1 credit each term.

823. Special Surgery
Spring. 3(1-6) May re-enroll for a maximum of 6 credits. Approval of department.
Surgical technique and tissue reactions following surgery in small animals.

825. Advanced Anesthesiology
Winter. 4(2-3) Approval of department.
Principles of drug action pertaining to anesthetics will be discussed including respiratory and cardiovascular effects of inhalation and intravenous agents. Anesthetic techniques for various animal species will be presented.

826. Cardiology
Fall. 3(2-4) Approval of department.
Study recent advances in veterinary cardiology. Includes electrocardiology, congenital and acquired diseases, cardiac catheterization and surgery.

S99. Research
Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 18 credits. Approval of department. Research on thesis problems.

SOCIAL SCIENCE

University College

To satisfy the University General Education requirement, a student must take one course in each of the following groups. Additional courses may be taken for elective credit.

1. 201, 211, 221, 241
2. 202, 212, 222, 242
3. 203, 213, 223, 243

100. Personal Decision Making and Public Policy
Spring. 4(4-0)
Public policy and decision-making processes. Effects of policy on the quality of life. Development of descriptive and prescriptive social science skills. Improving the policy-making process.

201. Americans and Their Values
(631A.) Fall, Winter, Spring, Summer. 4(4-0)
Processes by which individuals are socialized to the prevailing patterns of behavior by such agencies as family, school, peer groups, mass media and church. Part played by each in the development of personality.

202. Power in America
(323A.) Fall, Winter, Spring, Summer. 4(4-0) 201 preferred; or 211, 221, or 241.
Problems of regulating and controlling human behavior. Emphasis placed on major economic and political institutions involved in social control. This includes problems of human wants and needs.

203. A Peaceful World?
(323A.) Fall, Winter, Spring, Summer. 4(4-0) 303 preferred; or 213 or 223, or 242.
The international scene with the focus on problems of economic development, conflict among the nation-states and attempts at conflict control.

211. The Emergence of Man
(321B.) Fall, Winter, Spring, Summer. 4(4-0)
The bio-social evolution of man. The theories and empirical findings of the behavioral sciences are brought to bear upon the nature of man.
212. Coping with Changing Institutions in Modern Society (232B) Fall, Winter, Spring, Summer. 4(4-0) 211 preferred; or 201, 221, or 241.
Individuals and the changing institutional framework of modern society. Emphasis on socialization, enabling personality systems in different cultural settings to cope with life in the future.

213. Casualties of Contemporary Society (231B) Fall, Winter, Spring, Summer. 4(4-0) 212 preferred; or 202, 222, or 242.
The meaning of deviant behavior and personal disorganization and their impact on society. Selected problems examined in depth.

IDC. The Politics of Ecology
For course description, see Interdisciplinary Courses.

221. The Changing American Metropolis: Ecology of the Urban Community (231C) Fall, Winter, Spring, Summer. 4(4-0) Factors and directions in urban change. Impacts on life styles and life strategies of urban groups. Challenges to traditional family, educational, and community patterns.

222. Work and Politics in Urban America (232C) Fall, Winter, Spring, Summer. 4(4-0) 221 preferred; or 201, 211, 241.
Changing patterns of economic and political participation. Issues of employment security and job satisfaction. Distribution of economic rewards, political power, and civil rights. Intermeshing of economic and political activities.

223. The World's Cities: An Urban Culture and Common Problems (232C) Fall, Winter, Spring, Summer. 4(4-0) 223 preferred; or 203, 213, or 243.
The unity of urban life patterns and the emergence of modern-day urban problems. Cultural variations and approach to issues—comparative political, social, economic, ideological systems.

241. Modernization: Political and Social (31D) Fall, Winter, Spring, Summer. 4(4-0) The nature and sources of social cohesion. Approaches to modernization of traditional societies. Problems and alternative strategies of nation building.

242. Modern Ideologies: Justifications of Political and Economic Power (32D) Fall, Winter, Spring, Summer. 4(4-0) 241 preferred; or 201, 211 or 221.
Ideologies of change in the modern world—sources, appeal, programs. Issues of social justice and individual freedom.

243. Revolutionary Change and International Conflict (33D) Fall, Winter, Spring, Summer. 4(4-0) 242 preferred; or 203, 212, or 222.

SOCIAL SCIENCE (COLLEGE OF)

210. Methods of Social Science I (College of Social Science) Fall, Winter, Spring, Summer. 4(4-0) Sophomores.
Characteristics of social science theory and method. Logical and practical aspects of data collection; standard techniques of investigation in the social sciences.

211. Methods of Social Science II (College of Social Science) Fall, Winter, Spring, Summer. 4(4-0) Principles of measurement and scaling. Types of variables. Techniques and problems of sampling. Research design. Role of explanation and of value judgments in social science.

240. Contemporary Social Problems in the United States (490) Fall, Winter, Spring. 4(4-0) May re-enroll for a maximum of 8 credits. 18 credits in Social Science.
Interdisciplinary investigation of selected major social problems of the United States, such as urban redevelopment, environmental control, welfare reform, crime and society, the future of American society.

482. Contemporary Social Problems Abroad (490) Spring. 4(4-0) 18 credits in social science.
Seminars dealing with major theoretical topics and social problems concerning foreign areas, such as economic and educational development, population explosions, war crises, and peacekeeping. A multidisciplinary approach involving specialists from the social science disciplines and allied professional fields.

490. Individual Research Projects
Fall, Winter, Spring. 4 credits. May re-enroll for a maximum of 8 credits. Multidisciplinary social science majors and 12 credits in social sciences—agricultural economics, anthropology, economics, geography, political science, psychology and sociology.
Individually supervised study and research on a topic using a multidisciplinary approach.

495. Foreign Area Field Study
Fall, Winter, Spring, Summer. 3 to 15 credits. May re-enroll for a maximum of 34 credits. Juniors and seniors in social science. Study in a variety of foreign settings under the guidance of an advisor, such as American University Field Study Centers in Rome and Singapore.

810. Introduction to Linear System Theory (312) Fall, 3(3-0) MTH 214. Interdepartmental with the Computer Science Department and Systems Science and administered by Systems Science.
A first course in system theory for students from a range of disciplines. Mathematical representation of system variables, transform and state space methods of analysis, introduction to control theory, applications to physical, economic and social systems.

811. System Methodology and Simulation
Winter, 3(3-0) 810, STT 441. Interdepartmental with the Computer Science Department and Systems Science and administered by Systems Science.
Problem definition, design of abstract models for system design and computer simulation of systems described by differential and difference equations, generation of random variables, simulation of discrete and continuous systems, simulation languages, applications to physical, economic and social systems.

813. System Project
Spring, 3(3-0) 811. Interdepartmental with the Computer Science Department and Systems Science and administered by Systems Science.
Individual or team application of simulation methods to system design and/or management.

999. Research
Fall, Winter, Spring, Summer. Variable credit. Approval of college. A-166