825. Human Resource Information Systems
Spring, 4(4-0) LIR 824.
Human resource and labor relations information systems; information requirements for human resource decisions; methods of appraising available software; role of personnel specialists in database development and operation.

832. Data Sources in Labor and Industrial Relations
Fall, Winter, Summer, 3(3-0) One undergraduate statistics course and approval of school.
Review and utilization of published data on labor and industrial relations. Methods of presentation, report writing. Index numbers, time series decomposition.

834. Survey Methods in Labor and Industrial Relations
Fall, Summer, 3(3-0) One undergraduate statistics course and approval of school.
Design and conduct of data collection operations applied to labor and industrial relations. Sample design and sampling procedures. Design of questionnaires and interview schedules. Field operations. Data editing and coding.

841. Collective Bargaining in Public Employment
Spring, Summer, 4(4-0) LIR 858, LIR 863, or approval of school.
History and current status of collective bargaining practices and governmental policies in the public sector.

854. Comparative Industrial Relations Systems
Spring, 4(4-0) LIR 801, LIR 858, LIR 863, or approval of school.
Comparative analysis of industrial relations systems of countries in various stages of economic development.

857A. Labor Economics I
Fall, 3(3-0) EC 324, EC 328 or approval of school. Interdepartmental with and administered by the Department of Economics.
Labor supply; labor demand; job search and job matching; labor mobility and migration; effects of government policies on labor markets.

858. Collective Bargaining
Fall, Winter, Spring, 3(3-0) EC 305, or approval of department. Open to graduate students in economics and related fields such as labor and industrial relations, psychology, sociology, anthropology, political science, business, and history. Interdepartmental with the Department of Economics.
Problems and issues in the administration and negotiation of collective bargaining agreements; includes both economic and noneconomic aspects of industrial relations policies and practices.

863. Law of Labor-Management Relations
Fall, Winter, Spring, 4(4-0) Approval of school.
The National Labor Relations Act as amended: rights to organize and undertake concerted activity; legal framework of contract negotiations; representation of bargaining unit members; union member rights; proposed statutory changes.

865. Grievance Administration and Arbitration
Winter, Spring, 4(4-0) LIR 858, LIR 863 or approval of school.
Grievance procedure and arbitration as the terminal step in the grievance process. Analysis of industrial common law.

866. Equal Employment Opportunity and Occupational Safety and Health Policy
Spring, Summer, 4(4-0)
Major emphasis on government policies to promote equal employment opportunity, their scope and impact on collective bargaining. Attention also given to governmental policies to protect workers from substandard working conditions.

881. Special Topics in Labor and Industrial Relations
Winter, 2(2-0) to 4(4-0) May reenroll for a maximum of 8 credits. Twelve graduate credits or approval of school.
Intensive analysis of special topics in collective bargaining, employment relations, or human resources.

895. Readings in Labor and Industrial Relations
Fall, Winter, Spring, Summer, 2 or 3 credits. May reenroll for a maximum of 6 credits.
Twenty credits in labor and industrial relations.

999. Master's Thesis Research
Fall, Winter, Spring, Summer. Variable credit. May reenroll for a maximum of 9 credits.
Approval of school.

923. Seminar in Organizational Behavior
Winter, 4(4-0) May reenroll for a maximum of 8 credits if a different area is taken. LIR 858.
Research and policy on selected problems of organizational behavior in labor and industrial relations.

955. Seminar in Collective Bargaining and Trade Union Behavior
Spring, 4(4-0) May reenroll for a maximum of 8 credits if a different area is taken. LIR 858.
Critical study of selected contemporary areas and issues in collective bargaining.

LANDSCAPE ARCHITECTURE
See Geography.

LARGE ANIMAL CLINICAL SCIENCES

College of Veterinary Medicine

412. Livestock Hygiene and Disease Control
Spring, 3(3-0) Juniors; Agriculture majors.
Fundamentals of health and disease in animals, relation of infectious and parasitic diseases of animals to human health, disease prevention and role of veterinarian in preventive medicine.

621. Integrative Clinical Problems
Fall, Winter, Spring, Summer, 3 credits. Completion of 9 terms of professional program or approval of department.
Comprehensive problem-solving explorations of selected clinical diseases, either systems or species oriented, in large animals.

642. Special Problems-Research
Fall, Winter, Spring, Summer, 2 to 4 credits. May reenroll for a maximum of 8 credits.
Completion of 9 terms of professional program, approval of department.
Research related to a large animal specialty.

644. Theriogenology Clerkship
Fall, Winter, Spring, Summer, 3 credits. Completion of 9 terms of professional program, approval of department.
Provides hands-on clinical experience with diagnostic methods utilized in large animal reproduction.

650. Equine Medicine and Surgery Clerkship
Fall, Winter, Spring, Summer, 6 credits. Completion of 9 terms of professional program, approval of department.

651. Equine Musculoskeletal Diseases
Fall, Winter, Spring, Summer, 3 credits.
Completion of 9 terms of professional program, approval of department.
Techniques and procedures used for the diagnosis and management of a variety of equine musculoskeletal diseases utilizing hospitalized and field cases.

654. Advanced Equine Medicine and Surgery
Fall, Winter, Spring, Summer, 3 credits.
Completion of 9 terms of professional program, LCS 650 or approval of department.
In-depth, supervised equine medicine and surgery.

656. Large Animal Anesthesiology Clerkship
Fall, Winter, Spring, Summer, 3 credits. Completion of 9 terms of professional program, approval of department.
Concepts and supervised practice in large animal anesthesiology.

660. Field Service/Food Animal Clerkship
Fall, Winter, Spring, Summer, 9 credits.
Completion of 9 terms of professional program, approval of department.
Management of both individual and herd animal disease problems in both a hospital and on-farm environment. Skills in theriogenology. Introduction to principles of herd health management and clinical epidemiology.

664. Dairy Herd Health Clerkship
Fall, Winter, Spring, Summer, 3 credits.
Completion of 9 terms of professional program, LCS 660, approval of department.
Dairy farm and herd health management. Record keeping, general management, housing, nutrition, and mastitis control will be emphasized.
686. Equine Herd Health Clerkship  
Winter, Spring, Summer. 3 credits.  
Completion of 9 terms of professional program, approval of department.  
Establishing and maintaining herd health programs for equine operations. Reproduction, parasite control, immunization, and diagnostic medicine and surgery in the field.

685. Swine Herd Health Clerkship  
Fall, Winter, Spring, Summer. 3 credits.  
Completion of 9 terms of professional program, approval of department.  
Swine diseases and related production problems encountered in swine herd health programs.

672. Advanced Food Animal Clerkship  
(LSM 672) Fall, Winter, Spring, Summer. 3 credits.  
Completion of 9 terms of professional program, LCS 660, approval of department.  
Advanced, supervised food animal surgery and medicine.

674. Preceptorial Clerkship  
Fall, Winter, Spring, Summer. 6 credits.  
Completion of 9 terms of professional program, approval of department. Students may not receive credit in both V M 610 and LCS 674.  
Applied large animal clinical science. Students participate in all activities in assigned private practices tutored by practitioners with adjunct faculty appointments.

676. Veterinary Nutrition for Livestock  
Fall, Winter, Spring, Summer. 3 credits.  
Completion of 9 terms of professional program, approval of department, LCS 660.  
Evaluating the nutritional status and rations of livestock.

809. Problems in Large Animal Surgery  
Fall, Winter, Spring, Summer. 2 to 4 credits.  
May reenroll for a maximum of 12 credits. Approval of department.  
Elective work in selected surgical research problems compatible with student's interest and ability.

811. Problems in Large Animal Medicine  
Fall, Winter, Spring, Summer. 2 to 4 credits.  
May reenroll for a maximum of 12 credits. Approval of department.  
Elective work in selected medicine-related research problems compatible with student's interest and ability.

813. Seminar  
Fall, Winter, Spring, Summer. 1 credit.

825. Fundamentals of Biomedical Experimental Techniques  
Fall. 3(2-3) Students enrolled in a graduate degree program, approval of department.  
Fundamentals of humane treatment of animals, anesthesia, aseptic techniques, instrumentation, suture materials and patterns, tissue handling and wound healing for experimental animal research.

827. Comparative Theriogenology  
Winter. 3(3-0) V M 580 or approval of department.  
Comparative pathophysiology of the reproductive system of domestic animals with emphasis on clinical theriogenology.

828. Tropical Animal Health and Production  
Spring of even-numbered years. 3(2-2)  
ANS 485 or completion of 7 terms of the professional program.  
Impact of animal health on livestock production, livestock production systems, human welfare, and socioeconomic development of developing countries, especially in Africa. Epidemiology and control of major diseases such as rinderpest, trypanosomiasis, and other viral epidemics.

889. Master's Thesis Research  
Fall, Winter, Spring, Summer. Variable credit. May reenroll for a maximum of 18 credits. Students enrolled in a graduate degree program, approval of department. Research on thesis problems.

901. Investigating the Lung  
Fall of even-numbered years. 3(3-0)  
Approval of department. Interdepartmental with the departments of Pathology and Physiology.  
Classic and current concepts of respiratory structure and function in health and disease and mechanisms of lung injury.

921. Pathology of Nutritional and Metabolic Diseases  
Spring of odd-numbered years. 4(3-2)  
ANT 420, ANS 555, BCH 455, HNF 482 recommended. Interdepartmental with Human Nutrition and Foods.  
Development, physiopathology and morphologic pathology of nutritional and metabolic diseases including carbohydrate, protein, fatty acid, vitamin and mineral deficiencies, their experimental induction and their medical or economic significance.

999. Doctoral Dissertation Research  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

360. World Literature in English  
Fall. 3(3-0) Interdepartmental with and administered by the Department of English.  
Representative works, not from England or the United States, which were written originally in English, especially the English literature of present or former British Commonwealth nations, and nations from the Middle East and Africa.

361. World Literature in English Translation  
Winter. 3(3-0) Interdepartmental with the Department of English.  
Significant and characteristic works of the Orient, the Middle East, and Africa in English translation.

362. Genres and Themes in World Literature  
Spring. 3(3-0) Interdepartmental with and administered by the Department of English.  
Work will center each term around a single literary genre, type or theme. Typical examples: The Quest, Literature of Revolt, Satire. Literary examples will be selected from several national literatures.

434. Aesthetic Theory and Modernism  
Fall. 4(4-0) Juniors. Interdepartmental with History of Art, Romance Languages, the departments of English, and Philosophy, and the School of Music. Administered by the Department of Philosophy.  
Problems, assumptions, and arguments of modern aesthetic theory examined in the context of debates over modernity and modernist artistic practice.

499. Special Projects  
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 18 credits. Approval of department.  
Work in areas outside regular course offerings.

African Languages  
AFR

AFR 101. African Languages—Elementary  
Fall. 4(4-1) May reenroll for AFR 101-102-103 sequence in more than one African language.  
Comprehension and speaking taught by a linguist with native informants. Offerings include Bemba, Hausa, Ibo, Pidgin, Swahili, Yoruba. These and other African languages are taught upon sufficient demand and availability of instructors.

AFR 102. African Languages—Elementary  
Winter. 4(4-1) May reenroll for AFR 101-102-103 sequence in more than one African language. AFR 101.  
Continuation of AFR 101.

AFR 103. African Languages—Elementary  
Spring. 4(4-1) May reenroll for AFR 101-102-103 sequence in more than one African language. AFR 102.  
Continuation of AFR 102.

AFR 201. African Languages—Intermediate  
Fall. 4(4-0) May reenroll for AFR 201-202-203 sequence in more than one African language. AFR 201 in appropriate language or approval of department.  
Continuation of African Languages—Elementary.  
Comprehension, speaking, reading and writing taught by a linguist with native informants. See AFR 101 for languages available.