

**958. Seminar in Collective Bargaining**  
 Spring. 4(3-0) EC 858 or approval of school.  
 Critical study of selected contemporary areas and issues in collective bargaining.

## LABORATORY ANIMAL RESOURCES LAR

### College of Veterinary Medicine

**501. Introduction to Veterinary Medicine I**  
 Summer. 2(2-0) Admission to professional veterinary program. Interdepartmental with and administered by the Small Animal Surgery and Medicine Department.

Species and breed identification, predisposition for specific diseases, basic care and feeding, restraint and handling of small domestic animals, unusual pet, and laboratory animals.

**824. Laboratory Animal Medicine**  
 (VSM 824.) Fall, Spring. 3(2-3)  
 Completion of ninth-term professional Veterinary Medicine program.

Basic physiologic data, housing requirements, genetics, breeding systems, diseases, humane practices, and nutrition, of major laboratory animal species; administration of animal quarters, techniques of handling and treatment.

**825. Comparative Medical Experimentation**  
 Winter. 2(1-3) Graduate status, B.S. in biological sciences and approval of department.

Critical analysis of animal experimentation reported in biological journals related to the students' interest with special emphasis on effects of environment and host variables upon validity of experimental results.

**826. Laboratory Animal Pathology**  
 Spring. 4(3-3) Graduate status and approval of department. Interdepartmental with the Department of Pathology.

Macro and microscopic studies on the diseases of laboratory animals, with special emphasis on naturally-occurring diseases which might interfere with the interpretation of experimental results.

## LANDSCAPE ARCHITECTURE

See Urban Planning and Landscape Architecture

## LARGE ANIMAL SURGERY AND MEDICINE LSM

### College of Veterinary Medicine

**412. Livestock Hygiene and Disease Control**  
 (VSM 412.) Winter. 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.

**488. The Impact of Animal Resource Management Upon the World's Developing Nations**  
 Winter. 3(4-0)

For course description, see Interdisciplinary Courses.

**502. Introduction to Veterinary Medicine II**  
 Spring. 4(3-3) Admission to the professional veterinary program. Interdepartmental with and administered by the Small Animal Surgery and Medicine Department.

Anesthetic principles, agents, and techniques. Basic surgical principles, including aseptic technique, hemostasis, wound healing, suturing and suturing materials. Fundamentals of radiology.

**503. Introduction to Veterinary Medicine III**  
 Spring. 4(3-3) Admission to professional veterinary program. Interdepartmental with the Department of Small Animal Surgery and Medicine.

Physical and systemic examination of the various domestic and laboratory species. Common restraint procedures, clinical skills, diagnostics and an approach to clients are included.

**505. Large Animal Clinic I**  
 Fall, Winter, Spring, Summer. 3(0-10)  
 Eighth-term or ninth-term Veterinary Medicine students.

Clinical instruction and experience in diagnosis, patient care, medication, surgery, disease prevention, and herd health.

**521. Large Animal Surgery and Medicine I**  
 (VSM 521.) Fall, Spring. 8(7-3)  
 Seventh-term Veterinary Medicine students.

Occurrence, etiology, symptomatology, diagnosis, prognosis, treatment and prevention of diseases of reproductive, digestive, and respiratory systems. Demonstrations of laboratory experience in basic clinical skills including restraint, diagnosis, medication, and surgery.

**522. Large Animal Surgery and Medicine II**  
 (VSM 522.) Winter, Summer. 6(5-3)

521. Occurrence, diagnosis and treatment of surgical diseases of large animals. Discussion of diseases of cardiovascular, hematopoietic, urinary, nervous and integumentary systems. Demonstrations and laboratory experience in large animal surgery techniques.

**523. Large Animal Surgery and Medicine III**  
 (VSM 523.) Fall, Spring. 7(7-0)

522. Occurrence, diagnosis and treatment of surgical and reproductive diseases. Includes radiology and diseases of locomotion.

**531. Meat Hygiene**  
 (VSM 531.) Fall, Spring. 2(2-0)  
 Ninth-term Veterinary Medicine students.

Judging fitness of meat for human consumption based on a knowledge of bacteriology, parasitology and pathology. Organization and operation of meat inspection programs. Field trip required.

**605. Large Animal Clinic II**  
 (VSM 605.) Fall, Winter, Spring, Summer. 12(0-36) 505.

Advanced clinical instruction and experience in diagnosis, patient care, medication, surgery, disease prevention, and herd health. Includes handling of clinic patients under direct supervision of staff veterinarians and ambulatory clinic.

**624. Large Animal Surgery and Medicine IV**  
 (VSM 624.) Winter, Summer. 4(4-0)

523. Etiology, pathogenesis, epidemiology, pathological changes, differential diagnosis, prevention, control and treatment of specific infectious diseases of large animals.

**630. Veterinary Economics and Practice Management**  
 (VSM 630.) Fall, Spring. 3(3-0)  
 Veterinary medicine students.  
 Management and business principles of veterinary medical practice.

**809. Problems in Large Animal Surgery**  
 (VSM 809.) Fall, Winter, Spring, Summer. Variable credit.

**811. Problems in Large Animal Medicine**  
 (VSM 811.) Fall, Winter, Spring, Summer. Variable credit.

**813. Seminar**  
 (VSM 813.) Fall, Winter, Spring. 1 credit.

**823. Special Surgery**  
 (VSM 823.) Spring. 3(1-6) May re-enroll for a maximum of 6 credits. Approval of department.  
 Surgical techniques and tissue reactions follow-

**899. Research**  
 (VSM 899.) Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 18 credits. Approval of department.  
 Research on thesis problems.

## LATIN

See Romance Languages

## LINGUISTICS AND ORIENTAL AND AFRICAN LANGUAGES

### College of Arts and Letters

Courses in CHINESE and JAPANESE on the 300 level or higher are normally conducted in the language.

### Linguistics and Oriental and African Language Courses LOA

**299. Special Projects**  
 Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 18 credits. Approval of department.  
 Work in areas outside regular course offerings.

**499. Special Projects**  
 Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 18 credits. Approval of department.  
 Work in areas outside regular course offerings.

**African Languages**

AFR

**101. African Languages-Elementary**  
Fall. 5(3-2) May re-enroll for 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.

**102. African Languages-Elementary**  
Winter. 5(3-2) May re-enroll for 101-102-103 sequence in more than one African language. 101.

Continuation of 101.

**103. African Languages-Elementary**  
Spring. 5(3-2) May re-enroll for 101-102-103 sequence in more than one African language. 102.

Continuation of 102.

**200H. Honors Work**  
Fall, Winter, Spring. 1 to 16 credits.  
Approval of department.

**201. African Languages-Intermediate**  
Fall. 4(5-0) May re-enroll for 201-202-203 sequence in more than one African language. 103 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.

**202. African Languages-Intermediate**  
Winter. 4(5-0) May re-enroll for 201-202-203 sequence in more than one African language. 201.

Continuation of 201.

**203. African Languages-Intermediate**  
Spring. 4(5-0) May re-enroll for 201-202-203 sequence in more than one African language. 202.

Continuation of 202.

**400H. Honors Work**  
Fall, Winter, Spring. Variable credit.  
Approval of department.

**420. African Literature in Translation**  
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Juniors or approval of department.

Development and influence of the ideas, forms and motifs of African literatures in the literatures of the world.

**450. African Languages-Advanced**  
Fall, Winter, Spring. Variable credit.  
May re-enroll for maximum of 18 credits. Approval of department.

Advanced training or specialized research in particular African languages.

**Chinese**

CHS

**101. Elementary Chinese**  
Fall. 5(3-5)

Introduction to Mandarin, the official spoken language of China, with emphasis on pronunciation drill and conversation practice.

**102. Elementary Chinese**  
Winter. 5(3-5) 101.

Continued practice in conversation and aural comprehension; introduction to the reading and writing of Chinese characters.

**103. Elementary Chinese**  
Spring. 5(3-5) 102.

Continuation of 102 and grammatical analysis of basic Chinese sentence structure.

**200H. Honors Work**  
Fall, Winter, Spring. 1 to 16 credits.  
Approval of department.

**201. Second-Year Chinese**  
Fall. 3(3-0) 103.

Conversation, reading, and writing at the intermediate level.

**202. Second-Year Chinese**  
Winter. 3(3-0) 201.

Reading of advanced texts; introducing Chinese radicals and practice in the use of a Chinese dictionary.

**203. Second-Year Chinese**  
Spring. 3(3-0) 202.

Continuation of 202; selected texts from Chinese newspapers, periodicals, and political journals.

**221. Second-Year Conversation and Composition**  
Fall. 2(2-0) 103.

Conversation and composition at the intermediate level to supplement 201.

**222. Second-Year Conversation and Composition**  
Winter. 2(2-0) 221.

Continuation of 221.

**223. Second-Year Conversation and Composition**  
Spring. 2(2-0) 222.

Continuation of 222.

**301. Readings in Modern Chinese Literature**  
Fall. 3(3-0) 203.

Selected short stories from authors of the twentieth century.

**302. Readings in Modern Chinese Literature**  
Winter. 3(3-0) 301.

Selected essays from authors of the twentieth century.

**303. Readings in Classical Chinese Literature**  
Spring. 3(3-0) 302.

Selections from the writings of the important philosophers, historians, and poets.

**321. Conversation and Composition**  
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. 203.

Directed topical conversation and practice in composition.

**400H. Honors Work**  
Fall, Winter, Spring. Variable credit.  
Approval of department.

**401. Survey of Chinese Literature**  
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Oral com-

mand and reading knowledge of Chinese language.

Survey of Chinese literature from earliest record to contemporary writings. Lectures and discussions conducted in Chinese. Most assigned readings in Chinese, some in English translation.

**420. Oriental Literature in Translation**

Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Juniors or approval of department.

Development and influence of the ideas, forms and motifs of Far Eastern literatures in the literatures of the world.

**431. Chinese Poetry**  
Fall. 3(3-0) Reading knowledge of Chinese.

Rise and development of Chinese poetry with particular attention to poetry of the T'ang Dynasty.

**432. Chinese Drama**  
Winter. 3(3-0) Reading knowledge of Chinese.

Special emphasis on drama of the Yuan Dynasty.

**433. Chinese Novels**  
Spring. 3(3-0) Reading knowledge of Chinese.

The most important vernacular novels.

**Japanese**

JAP

**101. Elementary Japanese**  
Fall. 5(4-1)

Spoken and written Japanese; emphasis on conversation and easy reading.

**102. Elementary Japanese**  
Winter. 5(4-1) 101.

Continuation of 101.

**103. Elementary Japanese**  
Spring. 5(4-1) 102.

Continuation of 102.

**201. Second-Year Japanese**  
Fall. 3(3-0) 103.

A second-year course, stressing both oral and written Japanese.

**202. Second-Year Japanese**  
Winter. 3(3-0) 201.

Continuation of 201.

**203. Second-Year Japanese**  
Spring. 3(3-0) 202.

Continuation of 202.

**221. Second-Year Composition**  
Fall. 2(2-0) 103.

Review grammar and composition to supplement 201.

**222. Second-Year Composition**  
Winter. 2(2-0) 221.

Continuation of 221.

**223. Second-Year Composition**  
Spring. 2(2-0) 222.

Continuation of 222.

**400H. Honors Work**  
Fall, Winter, Spring. Variable credit.  
Approval of department.

**Linguistics**

**LIN**

**200. Language and Linguistics**

Fall, Winter, Spring. 3(3-0)

Especially for students in areas other than linguistics, this course consists of an introduction to language and linguistics, emphasizing the application of linguistics to various other disciplines.

**315. World Literature in English**

Fall. 3(3-0) *Interdepartmental with and administered by the English Department.*

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.

**316. World Literature in English Translation**

Winter. 3(3-0) *Interdepartmental with the English Department.*

Significant and characteristic works of the Orient, the Middle East, and Africa in English translation.

**317. Genres and Themes in World Literature**

Spring. 3(3-0) *Interdepartmental with and administered by the English Department.*

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.

**401. Introduction to Linguistics**

Fall, Winter, Spring. 3(3-0) *Juniors or approval of department. Not open to students with credit in 200.*

The scientific study of human languages. Basic goals, assumptions, terminology, and research results of modern theoretical and applied linguistics, with examples from a variety of languages.

**402. Phonology**

Fall, Winter, Spring. 3(3-0) 401 or approval of department.

Sounds and sound systems, emphasizing the four basic areas of articulatory phonetics, phonetic features and components, classical phonemics, and phonology in contemporary linguistic theories.

**403. Morphology**

Fall, Winter, Spring. 3(3-0) 402 or concurrently.

Structure of words, covering the identification and classification of morphemes, morphonemic alternation, and morphology in contemporary linguistic theories.

**421. Articulatory Phonetics**

Fall, Winter, Spring. 3(2-2) *Approval of department.*

Development of phonetic skills for the learning and teaching of languages.

**431. Introduction to Transformation Grammar**

Winter, Spring. 3(3-0) 401 or approval of department.

Investigation of the origin and development of transformational theory of syntax; properties of deep structure, surface structure, and transformations; application of transformational concepts to native and foreign language learning.

**441. Introductory Readings in Linguistics**

Fall, Winter, Spring. 3(3-0) 401.

Critical reading of basic texts of modern linguistics.

**471. Principles and Methods of Historical Linguistics**

Winter. 3(3-0) 403 or concurrently.

Types of linguistic change and the methods used by linguists to study the historical development of languages and language families.

**811. History of Linguistics**

Fall. 3(3-0) *Approval of department.*

The origin and development of linguistic studies from ancient India and Greece to the present. Provides a foundation for the understanding of contemporary issues in linguistics.

**821. Phonological Analysis**

Fall, Winter, Spring. 3(3-0) *May re-enroll for a maximum of 9 credits. Approval of department.*

Advanced study of phonology, generally utilizing one of the following theories: stratificational, tagmemic, transformational.

**831. Grammatical Analysis**

Fall, Winter, Spring. 3(3-0) *May re-enroll for a maximum of 9 credits. Approval of department.*

Advanced study of syntax and related topics, generally utilizing one of the following theories: stratificational, tagmemic, transformational.

**835. Semantics of Natural Languages**

Spring. 3(3-0) 431 or approval of department.

Selected topics on the study of meaning in human languages. History, issues, and theories of semantics.

**838. Interdisciplinary Seminar on Africa**

*For course description, see Interdisciplinary Courses.*

**841. Field Methods**

Fall. 3(3-0) *May re-enroll for a maximum of 9 credits. 403 or approval of department.*

Methods of working with informants in order to gather linguistic information, processing and analyzing data, writing linguistic descriptions.

**851. African Linguistics**

Winter. 3(3-0) *May re-enroll for a maximum of 9 credits. 401; 402 or concurrently.*

Investigation of linguistic issues and phenomena in one or a group of African languages.

**860. Special Projects**

Fall, Winter, Spring, Summer. *Variable credit. Approval of instructor.*

Supervised study, reading, and research in specialized areas of linguistics.

**871. Comparative Indo-European Linguistics**

Spring of odd-numbered years. 3(3-0)

471. Comparative linguistics as applied to the investigation of the development and historical relationships of the languages of the Indo-European family.

**880. Seminar in Linguistics**

Fall, Winter, Spring. 3(3-0) *May re-enroll for a maximum of 18 credits in different topics. Approval of department.*

Advanced critical study of current topics in linguistics such as applications to other disciplines, aspects of linguistic theory, child language acquisition, contrastive analysis, structure of particular languages.

**899. Research**

Fall, Winter, Spring, Summer. *Variable credit. Approval of instructor.*

**980. Seminar in Linguistics**

Spring. 3(3-0) *May re-enroll for a maximum of 9 credits in different areas. Approval of department.*

Special topics in linguistics for advanced graduate students.

**999. Research**

Fall, Winter, Spring. *Variable credit. Approval of instructor.*

**South Asian Languages**

**SAL**

**101. South Asian Languages—Elementary**

Fall. 5(3-2) *May re-enroll for 101-102-103 sequence in more than one South Asian Language.*

The spoken language. Emphasis on intensive pronunciation, comprehension drills, and developing sentence structure. Orthography introduced.

**102. South Asian Languages—Elementary**

Winter. 5(3-2) *May re-enroll for 101-102-103 sequence in more than one South Asian Language. 101.*

Continuation of 101.

**103. South Asian Languages—Elementary**

Spring. 5(3-2) *May re-enroll for 101-102-103 sequence in more than one South Asian Language. 102.*

Continuation of 102.

**201. South Asian Languages—Intermediate**

Fall. 4(3-2) *May re-enroll for 201-202-203 sequence in more than one South Asian Language. 103.*

Continued development of oral and aural skills. Study of grammar, readings in simple texts and exercises in composition.

**202. South Asian Languages—Intermediate**

Winter. 4(3-2) *May re-enroll for 201-202-203 sequence in more than one South Asian Language. 201.*

Continuation of 201.

**203. South Asian Languages—Intermediate**

Spring. 4(3-2) *May re-enroll for 201-202-203 sequence in more than one South Asian Language. 202.*

Continuation of 202.

**LYMAN BRIGGS COLLEGE**

**LBC**

**111. College Algebra**

Fall. 5(5-0) *Placement Test or approval of the college. Not open to students with credit in MTH 108, 109, or 111.*

Topics covered include polynomial, trigonometric, exponential, and logarithmic functions, their inverses and their properties; and analytic geometry with an emphasis on conics.

**112. Calculus I**

Fall, Winter, Spring. 5(5-0) 111 or MTH 109; LBC 125 concurrently. *Not open to students with credit in MTH 112.*

Topics covered include sequences and their limits, derivatives of rational power functions,