

- 439. Golf Course Planning and Design**  
Fall of even-numbered years. 3(3-0) Interdepartmental with Urban Planning. Administered by Urban Planning.  
P: UP 344 or LA 342. R: Open only to seniors and graduate students in Urban and Regional Planning or Urban and Regional Planning-Urban Studies or Landscape Architecture.  
History, planning, and design of the golf course as a component of the community. Environmental, regulatory, technical, and financing issues.
- 443. Community Project Design I**  
Fall. 4(2-4)  
P: LA 443. R: Open only to students in Landscape Architecture with an urban design cognate and to students in Urban Planning.  
Development of design solutions for medium scale site development projects focusing on moderately complex design programs and problems.
- 444. Community Project Design II (W)**  
Spring. 4(2-4)  
P: LA 443. R: Open only to students in Landscape Architecture. Completion of Tier I writing requirement. The community systems planning process. Application of multiple use theory and techniques. Integration of project demands and community infrastructure.
- 445. Advanced Project Design**  
Spring. 4(0-8)  
P: LA 444, LA 480. R: Open only to juniors and seniors in Landscape Architecture.  
Application of design theory to complex site development projects in community settings. Interaction of human activities, sites, and end uses. Use of community feedback.
- 473. Urban Design Theory**  
Fall. 3(3-0)  
R: Not open to freshmen and sophomores.  
Concepts and procedures for the organization, design, and development of public and private urban forms and spaces. Focus on American communities.
- 480. Professional Practice (W)**  
Spring. 3(2-2)  
P: LA 443. R: Open only to seniors and graduate students in Landscape Architecture. Completion of Tier I writing requirement.  
Principles and procedures of professional office practice. Organization and management of offices, personnel, and projects. Ethical and legal issues.
- 483. Historic Preservation and Preservation Planning in the U.S.**  
Fall. 4(4-0) Interdepartmental with Urban Planning and History of Art. Administered by Urban Planning.  
R: Not open to freshmen and sophomores. Approval of department.  
History and philosophy of the preservation of buildings, structures, and objects significant to the heritage of this nation. Preservation as a planning tool for local governments.
- 490. Independent Study**  
Fall, Spring. 3 to 4 credits. A student may earn a maximum of 7 credits in all enrollments for this course.  
R: Open only to students in Landscape Architecture. Approval of department.  
Individual investigation of landscape architecture topics in the interest areas of the Landscape Architecture faculty.

- 490H. Honors in Landscape Architecture**  
Fall, Spring. 3 to 4 credits. A student may earn a maximum of 7 credits in all enrollments for this course.  
R: Open only to Honors College seniors. Approval of department.  
Supervised individual investigation of Landscape Architecture topics.
- 492. Senior Research Seminar**  
Spring. 3(2-2)  
R: Open only to seniors and graduate students in Landscape Architecture.  
Contemporary issues of relevance to the profession.
- 493. Internship in Landscape Architecture**  
Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course.  
R: Seniors in Landscape Architecture or approval of department.  
Supervised experience in approved public agencies and professional offices.

## LARGE ANIMAL CLINICAL SCIENCES LCS

### Department of Large Animal Clinical Sciences College of Veterinary Medicine

- 412. Principles of Production Medicine**  
Spring. 2(2-0)  
R: Open only to juniors and seniors in College of Agriculture and Natural Resources.  
Animal health with emphasis on infectious, parasitic and metabolic disease control and prevention. Principles of production medicine.
- 610. Problems in Large Animal Clinical Sciences**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
R: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine. Advanced clinical training in a problem related to large animal clinical sciences.
- 611. Research Problems in Large Animal Clinical Sciences**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Veterinary Medicine. Approval of department.  
Research related to a large animal specialty
- 612. Problems in Production Medicine**  
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: LCS 630 or LCS 631; approval of department. R: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine.  
Production medicine problems of livestock health management. Course offered through a consortium with the universities of Illinois, Florida, California, and Nebraska, and Kansas State University, work to be completed at one of those universities.
- 620. Equine Medicine and Surgery Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: Completion of semester 5 of the professional veterinary program. R: Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in LCS 650.  
Supervised practice in equine medicine and surgery. Diagnosis, prognosis, treatment, and disease prevention.
- 621. Equine Practice Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Supervised, off-campus experience in a regular equine veterinary practice. Farm calls. After-hours emergencies. Veterinary practice management.
- 622. Equine Clinical Clerkship II**  
Fall, Spring, Summer. 3 credits.  
P: LCS 620 or LCS 621. R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in LCS 654.  
Advanced general training in equine medicine and surgery.
- 623. Equine Musculoskeletal Diseases Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: Completion of semester 5 of the professional veterinary program. R: Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in LCS 651.  
Techniques and procedures used for the diagnosis and management of equine musculoskeletal diseases. Hospitalized and field cases.
- 624. Equine Theriogenology Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Veterinary Medicine. Not open to students with credit in LCS 644.  
Emphasis on diagnostic methods utilized in equine reproduction.
- 625. Equine Herd Health Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: LCS 621. R: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in LCS 666.  
Establishing and maintaining equine herd health programs. Reproduction, parasite control, immunization, and diagnostic medicine and surgery in the field.
- 626. Advanced Equine Surgery**  
Fall, Spring, Summer. 3 credits.  
P: LCS 620 or LCS 621; LCS 622. R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Advanced, in-depth training in overall surgical management of equine surgical patients. Emphasis on breeds used for racing or sport.

**Descriptions — Large Animal Clinical Sciences of Courses**

- 627. Advanced Equine Medicine**  
Fall, Spring, Summer. 3 credits.  
P: LCS 620 or LCS 621; LCS 622. R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Advanced, in-depth training in the medical management of equine patients. Emphasis on neonates.
- 628. Techniques in Equine Anesthesia and Surgery**  
Fall, Spring, Summer. 3 credits.  
P: LCS 620 or LCS 621; LCS 622, LCS 640. R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Advanced equine anesthesia and surgery. Preoperative care of University-owned equids, induction of anesthesia, and performance of minor surgical procedures.
- 630. Food Animal Medicine and Surgery Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: Completion of semester 5 of the professional veterinary program. R: Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in LCS 660.  
Disease diagnosis and therapy of food animal species in a hospital setting. Disease process related to herd of origin.
- 631. Food Animal Practice Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in LCS 660.  
Supervised, off-campus experience in a regular food animal veterinary practice. Farm calls. After-hours emergencies. Veterinary practice management.
- 632. Advanced Food Animal Medicine and Surgery Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: LCS 630, completion of semester 5 of the professional veterinary program. R: Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in LCS 672.  
In depth, supervised food animal medicine and surgery.
- 633. Dairy Production Medicine Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: LCS 631, completion of semester 5 of the professional veterinary program. R: Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in LCS 664.  
Dairy farm and herd health management. Record keeping, general management, housing, nutrition. Mastitis control.
- 634. Swine Production Medicine Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: LCS 631, completion of semester 5 of the professional veterinary program. R: Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in LCS 668.  
Swine diseases and related production problems encountered in swine herd health programs.
- 636. Introduction to Herd Medicine**  
Fall, Spring, Summer. 3 credits.  
R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Principles of herd health and production medicine. Participation in the production medicine service.
- 637. Advanced Dairy Production Medicine**  
Fall, Spring, Summer. 3 credits.  
P: LCS 633, LCS 636. R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Topics related to enhancing profitability, decreasing disease, and improving management of dairy farms.
- 638. Beef Production Medicine**  
Fall, Spring, Summer. 3 credits.  
P: LCS 630 or LCS 631 or LCS 636 or LCS 643. R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Veterinary management of production and health of beef cattle. Visits to out-of-state facilities may be required.
- 639. Small Ruminant Medicine**  
Fall, Spring, Summer. 3 credits.  
R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Health care to small ruminants on an individual and flock/herd basis. Emphasis on sheep.
- 640. Large Animal Anesthesia Clerkship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
P: Completion of semester 5 of the professional veterinary program. R: Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in LCS 656.  
Concepts and supervised practice in large animal anesthesiology.
- 641. Food Animal Theriogenology**  
Fall, Spring, Summer. 3 credits.  
P: LCS 643. R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Techniques for evaluating the reproductive performance of food animal individuals and populations. Emphasis on cattle. Farm visits.
- 643. Food Animal Fundamentals**  
Fall, Spring, Summer. 3 credits.  
R: Completion of semester 5 of the professional veterinary program. Open only to graduate-professional students in College of Veterinary Medicine.  
Skills related to food animal veterinary practice.
- 677. Veterinary Preceptorship**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.  
R: Completion of semester 5 of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in LCS 674 or VM 610 or VM 611.  
Applied large animal clinical science in private practices. Supervised off-campus experience.
- 809. Special Problems in Large Animal Surgery**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course.  
R: Open only to graduate students in Large Animal Clinical Sciences. Approval of department.  
Elective work in surgical research problems student's interest.
- 811. Special Problems in Large Animal Medicine**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 9 credits in all enrollments for this course.  
R: Open only to graduate students in Large Animal Clinical Sciences. Approval of department.  
Elective work in medicine related research problems student's interest.
- 813. Seminar**  
Fall, Spring, Summer. 1(1-0) A student may earn a maximum of 3 credits in all enrollments for this course.  
R: Open only to graduate students in Large Animal Clinical Sciences or Small Animal Clinical Sciences. Approval of department.  
Presentation and discussions of current topics by graduate students, faculty, or outside speakers.
- 825. Experimental Surgical Techniques for Animal Research**  
Fall of odd-numbered years. 2(1-2)  
P: B.S. degree. R: Open only to graduate students. Approval of department.  
Humane treatment of research animals. Anesthesia, aseptic surgical techniques. Instrumentation for surgery, suture materials and patterns. Tissue handling and wound healing.
- 827. Comparative Theriogenology**  
Spring of even-numbered years. 2(2-0)  
P: VM 580. R: Open only to graduate students in Large Animal Clinical Sciences or Small Animal Clinical Sciences. Approval of department.  
Comparative pathophysiology of reproductive systems of domestic animals. Emphasis on clinical theriogenology.
- 828. Tropical Animal Health**  
Spring. 2(2-0)  
R: Open only to graduate-professional students in College of Human Medicine, College of Osteopathic Medicine, College of Veterinary Medicine. Approval of department.  
Animal health in the tropics. Impact on agriculture, the livestock industry, and human welfare.
- 829. Design and Conduct of Epidemiological Studies and Clinical Trials**  
Spring. 3(2-2) Interdepartmental with Human Medicine.  
P: VM 533 or approval of department. R: Open only to graduate students in the colleges of Human Medicine, Osteopathic Medicine, or Veterinary Medicine.  
Applied analytical methods in experimental design. Assessment of health and disease status of animal and human populations. Risk assessment and interpretation of clinical trials.
- 899. Master's Thesis Research**  
Fall, Spring, Summer. 1 to 8 credits. A student may earn a maximum of 18 credits in all enrollments for this course.  
R: Open only to graduate students in Large Animal Clinical Sciences. Approval of department.
- 901. Investigating the Lung**  
Fall of even-numbered years. 3(3-0) Interdepartmental with Physiology and Pathology.  
R: Open only to M.S. and Ph.D. students in Large Animal Clinical Sciences, Small Animal Clinical Sciences, Physiology, and Pathology. Approval of department.  
Classic and current concepts of respiratory structure and function in health and disease. Mechanisms of lung injury.

**999. Doctoral Dissertation Research**  
Fall, Spring, Summer. 1 to 36 credits. A student may earn a maximum of 36 credits in all enrollments for this course.  
R: Open only to graduate students in Large Animal Clinical Sciences. Approval of department.

## LATIN

## LTN

### Department of Romance and Classical Languages College of Arts and Letters

- 101. Elementary Latin I**  
Fall. 4(4-1)  
R: No previous experience in Latin or designated score on Latin placement test.  
Fundamentals of vocabulary, grammar, and syntax. Translation of elementary readings.
- 102. Elementary Latin II**  
Spring. 4(4-1)  
P: LTN 101 or designated score on Latin placement test.  
Continued study of the fundamentals of vocabulary, grammar, and syntax. Translation of elementary readings.
- 201. Latin Prose**  
Fall. 4(4-0)  
P: LTN 102 or designated score on Latin placement test.  
Intermediate-level Latin prose based on readings of such authors as Sallust, Livy, and Cicero.
- 202. Latin Poetry**  
Spring. 4(4-0)  
P: LTN 201.  
Intermediate-level Latin poetry of the Republic and Augustan periods.
- 290. Independent Study**  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course.  
R: Approval of department.  
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
- 301. Republican Prose and Poetry**  
Fall of even-numbered years. 3(3-0)  
P: LTN 202.  
Cicero, Caesar, Sallust, Plautus, Terence, Catullus, and Lucretius.
- 302. Augustan Poetry**  
Spring of odd-numbered years. 3(3-0)  
P: LTN 202.  
Poetry of Virgil, Horace, Propertius, Tibullus, and Ovid.
- 401. Augustan and Early Imperial Prose**  
Fall of odd-numbered years. 3(3-0)  
P: LTN 301 or LTN 302.  
Augustan and Early Imperial prose writers. Livy, Augustus, Tacitus, Petronius, Suetonius, and others.
- 402. Imperial Poetry**  
Spring of even-numbered years. 3(3-0)  
P: LTN 301 or LTN 302.  
Poets of the Empire: Lucan, Seneca, Persius, Juvenal, Silius Italicus, Statius, and others.

- 490. Independent Study**  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course.  
R: Not open to freshmen and sophomores. Approval of department.  
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
- 499. Senior Thesis**  
Fall, Spring. 3 credits.  
P: LTN 402. R: Approval of department.  
Senior thesis under the direction of a faculty member.

## LINGUISTICS

## LIN

### Department of Linguistics and Germanic, Slavic, Asian and African Languages College of Arts and Letters

- 200. Introduction to Language**  
Fall, Spring. 3(3-0)  
R: Not open to students with credit in LIN 401.  
Linguistic structure of language. Applications of linguistics to other disciplines. Human and societal aspects of the nature, use, acquisition, and history of languages.
- 271. Language in Society**  
Fall, Spring. 3(3-0)  
R: Not open to students with credit in LIN 471.  
Sociolinguistic values of languages and their varieties. Origin, status and function of language varieties in social settings. Factors influencing language change and maintenance in individuals and social groups.
- 401. Introduction to Linguistics**  
Fall, Spring. 4(4-0)  
R: Not open to students with credit in LIN 200.  
Basic goals, concepts, methods, and research results of modern theoretical and applied linguistics. Examples from a variety of languages.
- 411. History of Linguistics**  
Fall. 3(3-0)  
P: LIN 200 or LIN 401.  
Origin and development of linguistic studies from ancient Greece to the present. Foundation for the understanding of contemporary issues in linguistics and in society.
- 424. Phonology**  
Fall, Spring. 3(3-0)  
P: LIN 200 or LIN 401.  
Sounds and sound systems: articulatory phonetics, phonetic features and components, classical phonemics, and phonology in contemporary linguistic theories.
- 431. Morphological and Syntactic Phenomena**  
Spring. 4(4-0)  
P: LIN 424 or concurrently.  
Structure of words, phrases, clauses, and sentences. Relations among words. Examples from languages of the world, and formal methods for their description.
- 434. Syntax**  
Fall. 3(3-0)  
P: LIN 200 or LIN 401.  
Structure of sentences and structural relations among sentences. Methods of syntactic analysis and argumentation.

- 437. Semantics and Pragmatics**  
Fall. 3(3-0)  
P: LIN 200 or LIN 401 or approval of department.  
Semantic properties and relations. Entailment, ambiguity, theories of word and sentence meaning, and logical form. Topics in pragmatics, such as presupposition, conversational implicature, speech acts.
- 441. Historical Linguistics**  
Spring. 3(3-0)  
P: LIN 431 or concurrently.  
Types of linguistic change and the methods used by linguists to study the historical development of languages and language families.
- 450. Child Language Acquisition**  
Spring. 3(3-0)  
P: LIN 200 or LIN 401.  
Linguistic issues, perspectives and research on the acquisition of language by children. Phonology, lexicon, morphology, syntax, semantics. Universal principles, variation, contexts. Implications for related disciplines.
- 463. Introduction to Cognitive Science**  
Spring. 3(3-0) Interdepartmental with Philosophy and Psychology. Administered by Philosophy.  
P: PHL 462 or PSY 200 or LIN 401 or CPS 440.  
Cognitive processing of information by animals, humans, and computers. Relevant issues in philosophy, linguistics, psychology, neurophysiology, and artificial intelligence.
- 471. Sociolinguistics**  
Fall. 3(3-0)  
P: LIN 200 or LIN 401.  
Linguistic and social psychological bases for language choice. Accounts of language variation and related larger constructs such as speech community, communicative competence, dialect, and language change.
- 490. Independent Study**  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course.  
R: Approval of department.  
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
- 491. Special Topics**  
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course.  
R: Approval of department.  
Special topics supplementing regular course offerings proposed by faculty on a group study basis.
- 499. Senior Thesis Research**  
Fall, Spring. 2 credits.  
R: Approval of department.  
An individual research project supervised by a faculty member that demonstrates the student's ability to do independent research and submit or present a major paper.
- 813. Foundations of American Structuralism**  
Fall of even-numbered years. 3(3-0)  
P: LIN 431.  
Critical reading of basic texts in linguistics from 1900 to the 1960s with primary emphasis on American structuralism and its major derivatives.
- 815. Stratificational Linguistics**  
Fall of odd-numbered years. 3(3-0)  
P: LIN 431.  
Theory of language developed by Sydney M. Lamb and its application to grammatical, semological, and phonological phenomena. The relation of stratificational theory to other views of language.