

**LANDSCAPE  
ARCHITECTURE**

**LA**

**Department of Geography  
College of Social Science**

**200. Introduction to Landscape Architecture**  
Fall. 3(3-0)

Environmental issues and problem-solving strategies within landscape architecture.

**220. Graphic Communication**  
Fall. 4(2-4)

R: Open only to students in Landscape Architecture, Urban and Regional Planning, and Horticulture. Fundamentals of graphics including freehand and technical drafting, lettering, sketching, perspective drawing, and delineation and rendering. Principles of design and field drawing techniques. Also introduced: plan, section, elevation and basic symbols, references, methods of presentation and graphic reproduction.

**240. Applied Design Fundamentals**  
Spring. 4(2-4)

R: Open only to majors in Landscape Architecture, Horticulture, Crop and Soil Sciences, and Urban Planning.

Application of the principles and theory of design in advanced two- and three-dimensional representation.

**270. Landscape Design History**  
Spring. 3(3-0)

History of landscape architecture. Landscape development styles, design forms, and organization.

**311. Landscape Design and Management Specifications**

Spring. 4(3-2) Interdepartmental with Horticulture. Administered by Horticulture.

P: HRT 211; HRT 212 or concurrently.

Landscape design techniques, spatial organization, plant selection, plant and site interaction. Relationship between design, construction and maintenance. Preparation of planting and maintenance specifications.

**330. Site Construction: Materials and Methods**  
Fall. 4(2-4)

P: LA 220. R: Open only to majors in Landscape Architecture, Horticulture, Crop and Soil Sciences, and Park and Recreation Resources.

Elements and principles of grading, drainage, construction materials and methods.

**331. Site Engineering**  
Spring. 4(2-4)

P: LA 330. R: Open only to majors in Landscape Architecture and Horticulture.

Principles and procedures for landscape engineering of site structures and systems such as road alignment, storm and subsurface drainage. Site utilities.

**341. Basic Site Design I**  
Fall. 4(2-4)

P: LA 240. R: Open only to students in Landscape Architecture, Horticulture, Crop and Soil Sciences, and Urban Planning.

Introduction to the design process. Focus on program development, inventory, and analysis.

**342. Basic Site Design II**  
Spring. 5(2-6)

P: LA 341. R: Open only to students in Landscape Architecture, Horticulture, Crop and Soil Sciences, and Urban Planning.

Development of design solutions for individual projects at a small scale. Focus on simple design programs and problems of limited complexity.

**369. Introduction to Zoo and Aquarium Science**

Spring. 3 credits. Interdepartmental with Zoology, Fisheries and Wildlife, and Veterinary Medicine. Administered by Zoology.  
P: BS 110.

Fundamentals of zoo and aquarium operations including research, interpretation, design, nutrition, captive breeding, conservation, ethics and management.

**390. Landscape Architecture Field Studies**

Fall, Spring. 2 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course.

R: Open only to juniors and seniors in Landscape Architecture. Approval of department.

Field observation and analysis of selected professional offices, design and planning projects, natural areas, or places of historic interest. Background familiarization of selected study sites. Evaluation and synthesis of study experiences.

**420. Advanced Graphic Communication**  
Spring. 4(1-6)

P: LA 342. R: Open only to majors in Landscape Architecture.

Methods of 3-D visualization in the design process.

**437. Design Implementation**  
Fall. 3 credits.

P: LA 331, LA 480. R: Open only to seniors in the 5th year of the Landscape Architecture major and to seniors in Horticulture.

Development of a complete package of contract documents for a representative site development project, including construction plans, bid documents, and specifications.

**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. 5(2-6)

P: LA 342. 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**  
Spring. 5(2-6)

P: LA 443. R: Open only to students in Landscape Architecture.

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 credits.

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.

**446. Regional Environmental Design**  
Fall. 3 credits.

P: LA 444 R: Open only to seniors in Landscape Architecture. Approval of department.

Theory and tools in regional environmental design and their application to site facilities, assignment of land use, and management of landscape structure with special emphasis on spatial identity, visual quality, and environmental modeling. Human dimensions to landscape change.

**480. Professional Practice (W)**  
Fall. 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. 1 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 (W)**  
Spring. 3(2-2)

R: Open only to seniors and graduate students in Landscape Architecture. Completion of Tier I writing requirement.

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.

**494. Special Topics in Landscape Architecture**

Fall, Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course.

R: Open only to juniors and seniors in Landscape Architecture. Approval of department.

Selected subjects in landscape architecture derived from emerging issues and topics.

**498. Capstone: Internship in Zoo and Aquarium Science**  
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with Zoology and Fisheries and Wildlife. Administered by Zoology.  
R: Open only to juniors or seniors. Approval of department  
Experience in applying zoological experience in a zoo or aquarium setting outside the university.

## LARGE ANIMAL CLINICAL SCIENCES LCS

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

**412. Hazard Analysis and Critical Control Points in Production Medicine**  
Spring. 2(2-0)  
R: Not open to freshmen. Not open to graduate-professional students in the College of Veterinary Medicine. Animal disease and health in relation to livestock production and public health. Production medicine and the ability to develop hazard analysis critical control points (HACCP) strategies for animal disease management.

**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 Clinical Clerkship I**  
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.  
R: Completion of semester 5 of the professional veterinary program.  
Supervised, off-campus experience in an assigned veterinary practice. Regular equine 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.  
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.  
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.  
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.

**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.

**629. Equine Fundamentals**  
Spring. 3 credits.  
P: Completion of semester 5 of the professional veterinary program. R: Open only to graduate-professional students in the College of Veterinary Medicine.  
Basic clinical skills in equine medicine, surgery and reproduction.

**630. Food Animal Medicine and Surgery Clerkship**  
Fall, Spring, Summer. 3 credits.  
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.  
R: Completion of semester 5 of the professional veterinary program. Not open to students with credit in LCS 660.  
Supervised, off-campus experience in an assigned veterinary practice. Regular food animal farm calls. After-hours emergencies. Veterinary practice management.

**632. Advanced Food Animal Medicine and Surgery Clerkship**  
Fall, Spring, Summer. 3 credits.  
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.  
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.  
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.

**635. Advanced Swine Production Medicine**  
Fall. 3 credits.  
P: LCS 634. Completion of semester 5 of the professional veterinary program. R: Open only to graduate-professional students in the College of Veterinary Medicine.  
Preparation for herd consultation; population management records analysis, integrated production systems, and complex multi-factorial problems.

**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.