

- 333. Site Construction**
Fall. 4(2-4) Junior majors.
Materials and methods for construction of landscape developments, including details, layouts, construction drawings, specifications and cost estimating procedures.
- 341. Basic Site Design**
(241.) Fall. 4(1-6) Junior majors.
Applications of site planning theory and landscape design methods to representative site development projects involving buildings, use areas, land, water and plant forms, with verbal and graphic expressions. Field trips required.
- 346. Project Site Design**
Winter. 4(1-6) L A 341.
Application of site planning principles and landscape design methods to representative site development projects, with emphasis on housing and recreational requirements and opportunities.
- 348. Public Site Design**
Spring. 4(1-6) L A 346.
Application of site planning principles and landscape design methods to comprehensive site development projects, with emphasis on public and institutional requirements and opportunities.
- 353. Planting Plans**
Winter. 4(2-4) Junior majors.
Principles and procedures for selection and arrangement of plant materials for specific uses, including climate modification, spatial definition, circulation control, and soil and water conservation, as expressed by planting plans and specifications.
- 370. History of Environmental Development**
Fall. 3(2-2)
Significant natural conditions and cultural events which have influenced man's attempts to organize and design his physical environment, as expressed in historic landscape development styles and movements.
- 390. Landscape Architecture Field Studies**
Fall, Spring. 2(1-2) May reenroll for a maximum of 4 credits. Approval of school.
A 3 to 5 day field trip to visit contemporary and historical developments and various regional zones. Prior and post study required.
- 401. Landscape Management**
Spring. 3(3-0)
Concepts and policies affecting natural resource conservation, selection and location of significant human use areas, landscape development considerations and their environmental implications.
- 403. Urban Design Theory**
Fall. 3(3-0)
Concepts and procedures for the organization, design and development of public and private urban forms and spaces, including survey of urban elements, cultural, ecological and aesthetic considerations, and interdisciplinary collaboration.
- 423. Professional Graphics**
Spring. 4(1-6) L A 321.
Applications of advanced sketching, perspective and rendering techniques for typical professional presentations, including prints, reproductions, photography and multi-media audio-visual communications.
- 432. Site Engineering**
Fall. 4(2-4) Majors.
Principles and procedures for design of site development systems, horizontal and vertical road alignments, storm and sanitary sewers, site utilities and computer applications for preparation of site construction drawings.
- 437. Design Implementation**
Winter. 4(1-6) Senior majors, L A 480 concurrently.
Preparation of a complete package of contract documents for a representative site development project, including typical construction drawings, specifications and cost estimates.
- 441. Regional Landscape Design**
Winter. 4(1-6) Senior majors.
Applications of regional design theory and landscape design methods to representative large scale land use and development projects, resource conservation, environmental restoration, and accommodation of various human activities. Field trips required.
- 443. Urban Landscape Design**
Fall. 4(1-6) Senior majors.
Applications of urban design theory and landscape design methods to representative urban development projects, public plazas, pedestrian malls, civic and cultural complexes, etc., with written, oral and graphic representations. Field trips required.
- 463. Architectural Design II**
Fall. 4(1-6) Majors.
Design of buildings and their groupings in relation to the landscape, including structural systems, form-space compositions, and applications to representative landscape development projects. Field trips required.
- 471. History of Landscape Architecture**
Spring. 3(2-2)
Environmental design concepts and projects from 1850 to the present time, with emphasis on the development of the profession and practice of landscape architecture in the United States.
- 480. Professional Practice**
Winter. 3(2-2) Senior majors, L A 437 concurrently.
Principles and procedures of professional landscape architectural practice, including ethics, client relations, registration, inter-professional collaboration and organization of operations for design implementation. Field trips required.
- 483. Landscape Architecture Seminar**
Spring. 3(2-2) Senior majors.
Research presentation and discussion of significant current issues, trends, events and opportunities relating to contemporary theories and practices of landscape architecture.
- 489. Landscape Architecture Internship**
Fall, Winter, Spring, Summer. 2(0-8) or 3(0-12) or 4(0-16) May reenroll for a maximum of 8 credits. Juniors, approval of school.
Supervised experience in approved public agencies and professional offices. Bi-weekly conferences.
- 490. Special Problems**
Fall, Winter, Spring, Summer. 2 to 5 credits. May reenroll for a maximum of 12 credits. Approval of school.
Investigation, for advanced undergraduate students in landscape architecture, developed from special interest areas.
- 499. Landscape Architecture Design Thesis**
Spring, Summer. 4(0-8) L A 441, L A 443.
Demonstration of analytical, creative and technical competencies in the development of methods and/or concepts leading to design solutions for contemporary landscape architecture problems.

**VETERINARY MEDICINE V M
(COLLEGE OF)**

- 511. Introduction to Veterinary Medicine I**
(SSM 501, V M 500A.) Fall. 2(2-0)
First-term Veterinary Medicine students.
Species and breed identification, predisposition for specific diseases, basic care and feeding, restraint and handling of small domestic animals, unusual pets, and laboratory animals.
- 517. Perspectives in Veterinary Medicine**
Fall. 1(1-0) First-term Veterinary Medicine students.
Ethical principles, historical background and organization of the veterinary profession.
- 521. Introduction to Veterinary Medicine II**
(500B.) Winter. 4(3-4) Second-term Veterinary Medicine students.
Restraint, physical examination and diagnostic procedures in food animals and horses. Fundamentals of equine conformation, gaits, shoeing and routine medical care.
- 531. Animal Behavior**
(500E) Spring. 3(3-0) Third-term Veterinary Medicine students.
Emphasis on behavior of animals relating to disease prevention and treatment. Lectures, discussions and demonstrations on veterinary ethology including animal communications, reproduction, restraint, handling, housing and feeding habits.
- 540. Metabolic Diseases and Endocrinology**
(503.) Fall. 2(2-0) Fourth-term Veterinary Medicine students.
Biochemical and physiological basis of metabolic and endocrine diseases of animals including diagnosis, treatment and management.
- 542. Principles of Radiology**
Fall. 2(2-0) Fourth-term Veterinary Medicine students.
Fundamentals of veterinary radiography. Normal radiographic anatomy. Principles of radiographic interpretation. Radiation safety.
- 544. Veterinary Decision Making**
Fall. 2(2-0) Fourth-term Veterinary Medicine students.
Clinical and experimental information and financial decisions.

**Descriptions – Veterinary Medicine
of
Courses**

- 550. Veterinary Public Health and Epidemiology**
(520.) Winter. 5(5-0) Fifth-term Veterinary Medicine students.
Public health aspects of veterinary medicine. Principles of epidemiology and their application to the study of diseases of animal populations.
- 560. Urinary System**
(507.) Spring. 3(3-0) Sixth-term Veterinary Medicine students.
Normal and abnormal structure and function, diagnostic methods, and the medical and surgical manipulation of the urinary system.
- 561. Core of Medicine Laboratories I**
Spring. 2(0-6) Sixth-term Veterinary Medicine students.
Classification diagnosis and treatment of diseases of the urinary, hematopoietic, nervous, integumentary and visual systems of animals.
- 562. Hematopoietic System**
(509.) Spring. 2(2-0) Sixth-term Veterinary Medicine students.
Normal structure and function of the hematopoietic system and pathophysiologic effects of hematopoietic diseases. Clinical manifestations, laboratory evaluation and medical management.
- 563. Visual Systems**
(532.) Spring. 2(2-0) Sixth-term Veterinary Medicine students.
Methods of examination, diagnosis, and treatment of ocular diseases.
- 564. Survey of Infectious Agents**
(510.) Spring. 4(4-0) Sixth-term Veterinary Medicine students.
Host-microorganism relationship in diseases of animals; laboratory diagnosis, treatment, control, and public health significance.
- 566. Nervous System**
(512.) Spring. 3(3-0) Sixth-term Veterinary Medicine students.
Normal and abnormal neural structure and function in animals with emphasis on clinical neurology and neuropathology.
- 568. Integumentary System**
(524.) Spring. 3(3-0) Sixth-term Veterinary Medicine students.
Diseases of the integumentary system of animals with emphasis on laboratory examinations, interpretations of pathological features, diagnosis and treatment.
- 570. Principles of Anesthesia**
Fall. 2(2-0) Seventh-term Veterinary Medicine students.
Principles and techniques of administering anesthetic agents. Supportive care including fluid therapy. Emergency procedures. Euthanasia agents.
- 571. Core of Medicine Laboratories II**
Fall. 2(0-6) Seventh-term Veterinary Medicine students.
Classification, diagnosis and treatment of diseases of the cardiovascular, respiratory and digestive systems of animals. Preanesthetic and anesthetic procedures and skills.
- 572. Cardiovascular System**
(513.) Fall. 3(3-0) Seventh-term Veterinary Medicine students.
Pathogenesis, diagnosis, and management of cardiovascular diseases of animals. Anatomical, physiological, pathological and pharmacological principles providing basis for medical and surgical treatment. Diagnostic and surgical procedures and radiologic interpretation.
- 574. Respiratory System**
(515.) Fall. 4(4-0) Seventh-term Veterinary Medicine students.
Pathogenesis, diagnosis, and management of respiratory diseases of animals; anatomical, physiological and surgical treatments. Diagnostic and surgical procedures and radiologic interpretation.
- 576. Digestive System I**
(522.) Fall. 4(4-0) Seventh-term Veterinary Medicine students.
Pathogenesis, diagnosis, and treatment of diseases of the alimentary tract and digestive organs of small animals.
- 578. Principles of Surgery I**
Fall. 3(2-3) Seventh-term Veterinary Medicine students.
Fundamentals of surgery. Common procedures used in soft tissue surgery with small animals.
- 580. Theriogenology**
(516.) Winter. 5(5-0) Eighth-term Veterinary Medicine students.
Reproductive function and diseases of animals' genital structure and function and endocrine controls. Examination, diagnosis and treatment of the mammary gland and reproductive tract.
- 581. Core of Medicine Laboratories III**
Winter. 3(0-9) Eighth-term Veterinary Medicine students.
Diagnosis and treatment of diseases of the reproductive, digestive and musculoskeletal systems.
- 582. Musculoskeletal System I**
(526.) Winter. 3(3-0) Eighth-term Veterinary Medicine students.
Diagnosis and treatment of musculoskeletal diseases of animals with emphasis on pathological changes, radiological techniques, and interpretation of radiographs.
- 586. Digestive System II**
Winter. 4(4-0) Eighth-term Veterinary Medicine students.
Pathogenesis, diagnosis and treatment of diseases of the alimentary tract and digestive organs of food animals and horses.
- 588. Principles of Surgery II**
Winter. 3(2-3) Eighth-term Veterinary Medicine students.
Fundamental large animal surgery. Surgical techniques and management of animals before, during and after surgery.
- 590. Client Communication and Jurisprudence**
(501.) Spring. 2(2-0) Ninth-term Veterinary Medicine students.
Communication and interviewing skills for effective client relations. Communication aspects of medical records and their use in medical problem solving. Legal responsibilities of the veterinary medical profession.
- 591. Core of Medicine Laboratories IV**
Spring. 2(0-6) Ninth-term Veterinary Medicine students.
Diagnosis and treatment of common toxicologic conditions, musculoskeletal disorders and orthopedic conditions in animals.
- 592. Musculoskeletal System II**
(534.) Spring. 4(4-0) Eighth-term Veterinary Medicine students.
Diagnosis, prognosis and management of musculoskeletal diseases of large animals. Anatomical relationships of normal to abnormal function. Surgical procedures applicable to the equine and ruminant. Radiographic diagnosis and interpretation of various lameness conditions.
- 594. Veterinary Toxicology**
(530.) Spring. 4(4-0) Ninth-term Veterinary Medicine students.
Pharmacological basis and pathological features of diseases of animals caused by common toxic chemicals with emphasis on clinical manifestations, diagnosis, prevention, and treatment.
- 596. Diseases of Bones and Joints**
(536.) Spring. 3(3-0) Ninth-term Veterinary Medicine students.
Anatomy and pathophysiology of diseases of bones and joints. Diagnosis, prognosis and treatment of abnormalities involving bones and joints.
- 602. Veterinary Practice Management**
Spring. 2(2-0) Ninth-term Veterinary Medicine students, approval of college.
Establishment of a veterinary practice.
- 610. Veterinary Externship**
Fall, Winter, Spring, Summer. 8 to 16 credits. May reenroll for a maximum of 16 credits. Veterinary Medicine students; completion of preclinical courses and approval of college. Students may not receive credit in both V M 610 and LSM 674.
Clinical or research experience in an off-campus setting.

ZOOLOGY

ZOL

**College of Human Medicine
College of Natural Science
College of Osteopathic Medicine**

- IDC. Resource Ecology and Man**
For course description, see Interdisciplinary Courses.
- 301. Nature and Man**
Fall. 4(2-6) Three terms of natural science; not open to zoology majors.
Relates man to his natural environment. Chief emphasis on identifying characteristic animal life in broad areas of nature and how man fits or misfits into these. Lectures, laboratory and field trips illustrate this relationship.
- 302. Vertebrate Life of the Past**
Fall 3(3-0) One course in physical or biological science or Juniors. Interdepartmental with and administered by the Department of Geology.
Fossil vertebrates from fish to man.