834. Urban Design and Project Development
Spring, 3(1-4)
P: UP 801. R: Open only to graduate students in Urban and Regional Planning. Design of development projects. Integration of structures, spaces, activities, and design elements in various urban settings.

838. Land Use Law
Spring, 3(3-0) Interdepartmental with Resource Development, Agricultural Economics, and Forestry. Administered by Resource Development.

844. Decision Theory for Urban Planning and Development
Spring, 3(3-0)
P: UP 801 or two graduate courses in the Master of Public Administration program. Planning and developmental process. Political decision-making in the planning context. Professional ethics and practice.

848. Urban and Regional Planning
Fall. 2 credits.
P: UP 804A. R: Open only to graduate students in Urban Planning. Professional practice in the implementation of public policies.

889. Master's Thesis Research
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
P: Approval of department.

VETERINARY MEDICINE

College of Veterinary Medicine

200. Veterinary Systems Biology and Medical Science I
Spring. 7(5-4)
P: CEM 141, MTH 110. R: Approval of college. Multidisciplinary approach to the musculoskeletal system of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care of animals. Techniques of restraint, patient management, medical record keeping.

201. Veterinary Systems Biology and Medical Science II
Spring. 7(5-4)
P: CEM 141, MTH 110. R: Approval of college. Multidisciplinary approach to the gastrointestinal and cardiovascular systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.

300. Veterinary Systems Biology and Medical Science III
Fall. 7(5-4)
P: VM 200, VM 201. R: Open only to students in Veterinary Technology. Completion of Tier I writing requirement. Multidisciplinary approach to the neurologic and respiratory systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.

301. Veterinary Systems Biology and Medical Science IV
Fall. 7(5-4)
P: VM 200, VM 201. R: Open only to students in Veterinary Technology. Completion of Tier I writing requirement. Multidisciplinary approach to the urogenital and endocrine systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.

302. Veterinary Systems Biology and Medical Science V
Spring. 7(5-4)
P: VM 300, VM 301. R: Open only to students in Veterinary Technology. Completion of Tier I writing requirement. Approval of college. Multidisciplinary approach to the gastrointestinal and integumentary systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.

303. Anesthesiology for Veterinary Technicians
Spring. 2 credits.
P: VM 300, VM 301. R: Open only to students in Veterinary Technology. Approval of college. Pharmacologic action of preanesthetic and anesthetic drugs. Principles and techniques of induction, maintenance, monitoring, and recovery of the patient. Humane methods of euthanasia. Offered half of semester.

304. Radiology for Veterinary Technicians
Spring. 2 credits.
P: VM 300, VM 301. R: Open only to students in Veterinary Technology. Approval of college. Fundamentals of radiology. Production of x-rays, components of the x-ray machine, use of screens and grids, handling film, imaging quality, film processing, patient positioning, and radiation safety. Offered half of semester.

400. Laboratory Animal Technology
Fall. 2(1-2)
P: VM 200, VM 201, VM 302. R: Open only to seniors in Veterinary Technology. Approval of college. Animal husbandry, nutrition, preventative medicine, and medical management of common laboratory animals. Pathophysiology of selected diseases.

401. Clinical and Anatomic Pathology for Veterinary Technicians
Fall. 2(2-0)
P: VM 200, VM 201, VM 302. R: Open only to seniors in Veterinary Technology. Approval of college. Advanced cytologic techniques encompassing sample collection, processing, and evaluation. Necropsy procedures including history collection, lesion description, specimen submission, and client education concerning necropsy reports.

402. Hospital Practice Management for Veterinary Technicians
Spring, 3(3-0)
P: VM 200, VM 201, VM 302. R: Open only to seniors in Veterinary Technology. Approval of college. Veterinary practice economics, personnel management, inventory control, and marketing techniques. Lecture material is reinforced through the utilization of computerized models.

403. Companion Animal Nutrition and Behavior for Veterinary Technicians
Spring. 2(2-0)
P: VM 300, VM 301, VM 302. R: Open only to seniors in Veterinary Technology. Approval of college. Multidisciplinary approach to the management of healthy and diseased canine and feline patients. Normal canine and feline behavior, behavioral abnormalities, and behavioral modification.

404. Equine and Food Animal Nutrition and Husbandry
Spring. 2(2-0)
P: VM 300, VM 301, VM 302. R: Open only to seniors in Veterinary Technology. Completion of Tier I writing requirement. Approval of college. Comparative nutrition, feeding behaviors, and husbandry as applied to equine and food animal patients. Individual and herd information.

410. Veterinary Technology Clerkship in Anesthesiology
Fall, Spring, Summer. 3 credits.

411. Veterinary Technology Clerkship in Radiology
Fall, Spring, Summer. 3 credits.
412. Veterinary Technology Clerkship in Companion Animal Medicine
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in restraint, examination, nursing care, monitoring, and preventative medicine of companion animals.

413. Veterinary Technology Clerkship in Companion Animal Surgery
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in surgical nursing.

414. Veterinary Technology Clerkship in Equine Medicine and Surgery
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in equine medicine and surgery.

415. Veterinary Technology Clerkship in Cardiology
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in cardiology.

416. Veterinary Technology Clerkship in Critical Care
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in critical care.

417. Veterinary Technology Clerkship in Equine Anesthesiology
Fall, Spring, Summer. 3 credits.
P: VM 410, VM 411, VM 412, VM 413, VM 414. R: Approval of college.
Application of principles and techniques in equine anesthesiology.

418. Veterinary Technology Clerkship in Equine Field Service
Fall, Spring, Summer. 3 credits.
P: VM 410, VM 411, R: Approval of college.
Application of principles and techniques in equine field service.

419. Veterinary Technology Clerkship in Advanced Equine Medicine and Surgery
Fall, Spring, Summer. 3 credits.
P: VM 410. R: Approval of college.
Application of principles and techniques in equine medicine and surgery.

420. Veterinary Technology Clerkship in Food Animal Medicine
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in food animal medicine.

421. Veterinary Technology Clerkship in Food Animal Anesthesiology
Fall, Spring, Summer. 3 credits.
P: VM 410, VM 411. R: Approval of college.
Application of principles and techniques in food animal anesthesiology.

422. Veterinary Technology Clerkship in Clinical Pathology
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in clinical pathology.

423. Veterinary Technology Clerkship in Microbiology
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in microbiology.

424. Veterinary Technology Clerkship in Neoplasia
Fall, Spring, Summer. 3 credits.
P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in neoplasia.

425. Veterinary Technology Clerkship in Biomedical Research
Fall, Spring, Summer. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
P: VM 400. R: Approval of college.
Application of principles and techniques in biomedical research involving laboratory animals.

426. Veterinary Technology Clerkship in Zoo and Wildlife Medicine
Fall, Spring, Summer. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
P: VM 410, VM 411, VM 412, VM 413, VM 414. R: Approval of college.
Application of principles and techniques in zoo and wildlife medicine.

427. Veterinary Technology Clerkship in Special Problems
Fall, Spring, Summer. 3 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
P: VM 300, VM 301, VM 302. R: Open only to seniors in Veterinary Technology. R: Approval of college.
Application of principles and techniques in experimental, therapeutic, or laboratory medicine.

511. Veterinary Perspectives I
Fall. 2(4)
R: Open only to graduate-professional students in College of Veterinary Medicine.
Animal handling, restraint, and physical examination.

512. Veterinary Integrative Problem Solving I
Fall. 3(2-0)
R: Open only to graduate-professional students in College of Veterinary Medicine. Integration of subject material from concurrent semester courses.

513. Veterinary Perspectives II
Spring. 2(2-0)
R: Open only to graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 590.
Veterinary medical history and ethics. Client communication and animal behavior.

514. Veterinary Integrative Problem Solving II
Spring. 3(3-0)
R: Open only to graduate-professional students in College of Veterinary Medicine. Integration of subject material from concurrent and previous semester courses.

515. Veterinary Epidemiology
Fall. 3(2-0)
P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 549.
Basic epidemiologic theory and study design. Veterinary descriptive and inferential biostatistics. Production veterinary medicine.

516. Veterinary Perspectives III
Spring. 3(2-0)
P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 602.
Concepts and principles of veterinary practice management.

517. Veterinary Integrative Problem Solving III
Spring. 3(2-0)
P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. Integration of subject material from concurrent and previous courses.

518. Cardiovascular Diseases
Spring. 2(2-0)
P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine.
Cardiovascular diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

519. Veterinary Public Health
Spring. 2(2-0)
P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 570 or VM 578.
Administering anesthetic agents. Fundamentals of surgery: sterile technique, tissue handling, suture patterns, wound healing, postoperative care.

520. Principles of Anesthesia and Surgery
Spring. 4(3-2)
P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 635 or VM 638.
Administering anesthetic agents. Fundamentals of surgery: sterile technique, tissue handling, suture patterns, wound healing, postoperative care.
546. Musculoskeletal Diseases
Spring, 5(5-0)
P: Completion of semester 2 of the graduate professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 582 or VM 592. Musculoskeletal diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

547. Respiratory Diseases
Spring, 3(2-0)
P: Completion of semester 2 of the graduate professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 574. Respiratory diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

552. Veterinary Integrative Problem Solving Y
Fall, 3(2-3)
P: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine. Integration of subject material from concurrent and previous semester courses.

553. Theriogenology and Urinary Diseases
Fall, 3(2-0)
P: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 580 or VM 582. Urogenital diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

554. Hematological, Oncological and Dermatological Diseases
Fall, 3(0-0)
P: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 568 or VM 562. Hematological, oncological and dermatological diseases of domestic animals. Pathogenesis, clinical presentation, diagnosis and treatment.

555. Neurological and Ophthalmological Diseases
Fall, 3(3-0)
P: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 563 or VM 565. Neurological and ophthalmological diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

556. Digestive, Metabolic and Endocrinological Diseases
Fall, 3(3-0)
P: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 576 or VM 586 or VM 540. Digestive, metabolic, and endocrinological diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

557. Operative Surgery
Fall, 2(1-3)
P: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine. R: Not open to students with credit in VM 579 or VM 589 or VM 596. Soft tissue and orthopedic surgery of domestic animals: preoperative evaluation, surgery, and postoperative care.

611. Veterinary Internship
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 8 credits in all enrollments for this course.
R: Completion of 5 semesters of the graduate-professional program in the College of Veterinary Medicine. Clinical or research experience in an off-campus setting.

690. Special Problems in Veterinary Medicine
Fall, Spring. 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. Individual study directed by a faculty member on an experimental, theoretical, or applied problem. May involve off campus experience in a preceptorial mode.

818. The Epidemiology of Zoonotic Diseases
Spring of odd-numbered years. 3(3-0) Interdepartmental with Human Medicine. Administered by Human Medicine.
P: HM 810. R: Open only to master's students in Epidemiology or approval of college. Human susceptibility to diseases of animals. Modes of transmission, surveillance, and strategies for prevention of specific zoonotic diseases.

WOMEN'S STUDIES

Women's Studies Program
College of Arts and Letters
College of Social Science

201. Introduction to Women's Studies
Fall, Spring. 4(4-0)
Diversity of women's situations in social, cultural, historical and international contexts. Focus on women as victims of oppression and as agents. Concepts basic to feminist thought: gender systems, patriarchy.

202. Introduction to Contemporary Feminist Theories
Fall, 3(3-0)
P: WS 201 or approval of program. R: Not open to freshmen. Contemporary feminist theories of patriarchy, oppression, liberation, sexuality, and the meaning of "woman." Influences of liberalism, Marxism, Freud. Intersection of sex, race, class, and ethnicity. Theories by women of color.

203. Bibliographic Methods for Women's Studies Research
Fall of even-numbered years. 3(0-0)

204. Lesbian, Bisexual, and Gay Studies: Psychological and Cultural Issues
Spring, 3(3-0) Interdisciplinary with Psychology.

301. Sexual Violence Against Women and Children: Theory and Response
Spring, 3(3-0)