

**Descriptions—Urban Planning  
of  
Courses**

**894A. Planning Practicum I**  
Fall. 2(0-4)

R: Open only to graduate students in Urban Planning. Professional practice in the collection, analysis, and synthesis of information by students or student groups under faculty supervision. Developing solutions to specific urban problems.  
QA: UP 834

**894B. Planning Practicum II**  
Spring. 2(0-4)

P: UP 894A. R: Open only to graduate students in Urban Planning. Professional practices in the preparation of plans appropriate to the study area and subject matter examined in UP 894A. Designing statutory measures and administrative policies for implementation.  
QP: UP 834 QA: UP 835

**899. Master's Theses Research**

Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course.  
R: Approval of department.

QA: UP 899

**VETERINARY MEDICINE VM**

**College of Veterinary Medicine**

**200. Veterinary Systems Biology and Medical Science I**  
Spring. 7(5-4)

P: MTH 116, CEM 142. 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.  
QA: VM 020, VM 022, VM 023

**201. Veterinary Systems Biology and Medical Science II**  
Spring. 7(5-4)

P: MTH 116, CEM 142. R: Approval of college. Multidisciplinary approach to the hematopoietic and cardiovascular systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.  
QA: VM 020, VM 021, VM 023

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

P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in anesthesiology.  
QA: VM 050

**411. Veterinary Technology Clerkship in Radiology**  
Fall, Spring, Summer. 3 credits.

P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in radiology.  
QA: VM 070

**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.  
QA: VM 062

**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.  
QA: VM 070

**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.  
QA: VM 062

**450. Veterinary Technology Clerkship in Emergency Medicine**  
Fall, Spring, Summer. 3 credits.

P: VM 412. R: Approval of college. Application of principles and techniques in emergency medicine.  
QA: VM 050

**451. 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.  
QA: VM 050

**452. Veterinary Technology Clerkship in Neurology**  
Fall, Spring, Summer. 3 credits.

P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in neurology and physical therapy.  
QA: VM 070

**453. Veterinary Technology Clerkship in Ophthalmology**  
Fall, Spring, Summer. 3 credits.

P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in ophthalmology.  
QA: VM 050

**454. Veterinary Technology Clerkship in Critical Care**  
Fall, Spring, Summer. 3 credits.

P: VM 412. R: Approval of college. Application of principles and techniques in critical care.  
QA: VM 050

**460. Veterinary Technology Clerkship in Equine Anesthesiology**  
Fall, Spring, Summer. 3 credits.

P: VM 410, VM 414. R: Approval of college. Application of principles and techniques in equine anesthesiology.  
QA: VM 050, VM 062

**461. Veterinary Technology Clerkship in Equine Field Service**  
Fall, Spring, Summer. 3 credits.

P: VM 414. R: Approval of college. Application of principles and techniques in equine field service.  
QA: VM 062

**462. Veterinary Technology Clerkship in Advanced Equine Medicine and Surgery**  
Fall, Spring, Summer. 3 credits.

P: VM 414. R: Approval of college. Application of principles and techniques in equine medicine and surgery.

**470. 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.  
QA: VM 062

**471. Veterinary Technology Clerkship in Production Medicine**  
Fall, Spring, Summer. 3 credits.

P: VM 470. R: Approval of college. Application of principles and techniques in production medicine.  
QA: VM 062

**472. Veterinary Technology Clerkship in Food Animal Anesthesiology**  
Fall, Spring, Summer. 3 credits.

P: VM 410, VM 470. R: Approval of college. Application of principles and techniques in food animal anesthesiology.

**480. 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.

**481. Veterinary 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.

**482. Veterinary Technology Clerkship in Necropsy**  
Fall, Spring, Summer. 3 credits.

P: VM 302, VM 303, VM 304. R: Approval of college. Application of principles and techniques in post mortem examination of common domestic species with emphasis on specimen description, collection, and submission.

**483. 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.

**484. 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.

**511. Veterinary Perspectives I**  
Fall. 2(1-2)

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. 1(1-0)

R: Open only to graduate-professional students in College of Veterinary Medicine. Integration of subject material from concurrent semester courses.

**521. 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. Not open to students with credit in VM 590.

Veterinary medical history and ethics. Client communication and animal behavior.  
QA: VM 590

**522. 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.

**532. Veterinary Integrative Problem Solving III**  
Fall. 3(1-4)

R: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. Integration of subject material from concurrent and previous semester courses.

**533. Veterinary Epidemiology**  
Fall. 3(3-0)

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.  
QA: VM 544

**540. Metabolic Diseases**

Fall. 1(1-0)

R: Open only to second year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 556.

Biochemical and physiological basis of metabolic and endocrine diseases of animals. Diagnosis, treatment, and management.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

**541. Veterinary Perspectives III**

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 602. Concepts and principles of veterinary practice management.

**542. Veterinary Integrative Problem Solving IV**

Spring. 3(2-3)

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.

**543. 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.

QA: VM 572

**544. Veterinary Public Health**

Spring. 2(2-0)

P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. Veterinary environmental and occupational and public health. Milk and meat hygiene. Control of zoonotic diseases.

**545. 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 570 or VM 578.

Administering anesthetic agents. Fundamentals of surgery: sterile technique, tissue handling, suture patterns, wound healing, postoperative care.

QA: VM 570, VM 578

**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.

QA: VM 582, VM 592

**547. Respiratory Diseases**

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 574.

Respiratory diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

QA: VM 574

**548. Principles of Radiology**

Fall. 1(1-0)

R: Open only to second year graduate-professional students in College of Veterinary Medicine. Fundamentals of veterinary radiology. Normal radiographic anatomy. Radiographic interpretation. Radiation safety.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

QA: VM 542

**549. Veterinary Epidemiology**

Fall. 3(3-0)

R: Open only to second year graduate-professional students in College of Veterinary Medicine.

Biostatistics, descriptive and inferential statistics. Study design and critical literature review. Disease determinants, ecology, distribution and populations at risk. Analytic-clinical investigation.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

QA: VM 544

**550. Preventive Veterinary Medicine and Public Health**

Spring. 3(3-0)

R: Open only to second year graduate-professional students in College of Veterinary Medicine.

Preventive and regulatory medicine: meat and milk hygiene, water supply and treatment, solid and liquid waste treatment and disposal. Zoonosis.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

**552. Veterinary Integrative Problem Solving V**

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. 5(5-0)

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 560 or VM 580.

Urogenital diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

QA: VM 560, VM 580

**554. Hematological, Oncological and Dermatological 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 568 or VM 562.

Hematological, oncological and dermatological diseases of domestic animals. Pathogenesis, clinical presentation, diagnosis and treatment.

QA: VM 562, VM 568

**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 566.

Neurological and ophthalmological diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

QA: VM 563, VM 566

**556. Digestive, Metabolic and Endocrinological Diseases**

Fall. 5(5-0)

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 578 or VM 588 or VM 596.

Soft tissue and orthopedic surgery of domestic animals: preoperative evaluation, surgery, and postoperative care.

QA: VM 578, VM 588

**560. Urinary System**

Spring. 2(2-0)

R: Open only to second year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 553.

Normal and abnormal structure and function, diagnostic methods, and medical and surgical manipulation of the urinary system.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

QA: VM 560

**561. Core of Medicine Laboratories I**

Spring. 1(0-3)

R: Open only to second year graduate-professional students in College of Veterinary Medicine.

Classification, diagnosis and treatment of diseases of the urinary, hematopoietic, nervous, integumentary, and visual systems of animals.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

QA: VM 561

**562. Hematopoietic System**

Spring. 1(1-0)

R: Completion of the first year of the graduate-professional program in the College of Veterinary Medicine.

Normal structure and function of the hematopoietic system and pathophysiologic effects of hematopoietic diseases. Clinical manifestations, laboratory evaluation and medical management.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

QA: VM 562

**563. Visual System**

Spring. 1(1-0)

R: Open only to second year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 555.

Methods of examination, diagnosis, and treatment of ocular diseases.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

QA: VM 563

**564. Survey of Infectious Agents**

Spring. 2(2-0)

R: Open only to second year graduate-professional students in College of Veterinary Medicine.

Host-microorganism relationship in diseases of animals. Laboratory diagnosis, treatment, control. Public health significance.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

QA: VM 564

**566. Nervous System**

Spring. 2(2-0)

R: Open only to second year graduate-professional students in the College of Veterinary Medicine. Not open to students with credit in VM 555.

Normal and abnormal neural structure and function in animals. Emphasis on clinical neurology and neuropathology.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

QA: VM 566

**568. Integumentary System**

Spring. 2(2-0)

R: Open only to second year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 554.

Diseases of the integumentary system of animals. Laboratory examinations, interpretations of pathological features, diagnosis, and treatment.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1993.

QA: VM 568

**570. Principles of Anesthesia**

Fall. 1(1-0)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 545.

Administering anesthetic agents. Supportive care including fluid therapy. Emergency procedures. Euthanasia agents.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 570

**Descriptions—Veterinary Medicine  
of  
Courses**

**572. Cardiovascular System**  
Spring, 2(2-0)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 543.

Pathogenesis, diagnosis, and management of cardiovascular diseases in animals. Anatomical, physiological, pathological, and pharmacological principles for medical and surgical treatment.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 572

**574. Respiratory System**  
Spring, 3(3-0)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 547.

Pathogenesis, diagnosis, and management of respiratory diseases of animals. Anatomical, physiological, and surgical treatments. Diagnostic and surgical procedures. Radiologic interpretation.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 574

**576. Digestive System I**  
Fall, 3(3-0)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 556.

Pathogenesis, diagnosis, and treatment of diseases of the alimentary tract and digestive organs of small animals.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 576

**578. Principles of Surgery I**  
Fall, 2(1-3)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 545 or VM 557.

Fundamentals of surgery. Common procedures used in soft tissue surgery with small animals.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 578

**580. Theriogenology**  
Fall, 4(3-3)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 553.

Reproductive function and diseases of animals' genital structure and function and endocrine controls. Examination, diagnosis, and treatment of the mammary gland and reproductive tract.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 580

**581. Core of Medicine Laboratories II**  
Fall, 2(0-6)

R: Open only to third year graduate-professional students in College of Veterinary Medicine.

Diagnosis and treatment of diseases of the reproductive, digestive, and musculoskeletal systems.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 581, VM 571

**582. Musculoskeletal System I**  
Spring, 2(2-0)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 546.

Diagnosis and treatment of musculoskeletal diseases of animals. Pathological changes, radiological techniques, and interpretation of radiographs.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 582

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**586. Digestive System II**  
Fall, 3(3-0)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 556.

Pathogenesis, diagnosis, and treatment of diseases of the alimentary tract and digestive organs of food animals and horses.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 586

**588. Principles of Surgery II**  
Fall, 2(1-3)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 557.

Fundamental large animal surgery. Surgical techniques. Management of animals before, during, and after surgery.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 588

**590. Client Communication and Jurisprudence**  
Spring, 1(1-0)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 541.

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.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 590

**591. Core of Medicine Laboratories IV**  
Spring, 2(0-6)

R: Open only to third year graduate-professional students in College of Veterinary Medicine.

Diagnosis and treatment of common toxicologic conditions, musculoskeletal disorders, and orthopedic conditions in animals.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 591, VM 581, VM 571

**592. Musculoskeletal System II**  
Spring, 3(3-0)

R: Open only to third year graduate-professional students in College of Veterinary Medicine. Not open to students with credit in VM 546.

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.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 592

**596. Diseases of Bones and Joints**  
Spring, 2(2-0)

R: Open only to third year graduate-professional students in College of Veterinary Medicine.

Anatomy and pathophysiology. Diagnosis, prognosis, and treatment of abnormalities involving bones and joints.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 596

**602. Veterinary Practice Management**  
Fall, 1(1-0)

R: Completion of the second year of the program in the College of Veterinary Medicine.

Establishment of a veterinary practice.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 602

**610. Veterinary Externship**  
Fall, Spring, 4 credits.

R: Completion of the third year of the program in the College of Veterinary Medicine.

Clinical or research experience in an off-campus setting.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1995.

QA: VM 610

**611. Veterinary Externship**  
Fall, Spring, Summer, 3 credits. A student may earn a maximum of 6 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.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 611

**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.

Temporary approval effective from Fall Semester 1992 through Spring Semester 1994.

QA: VM 690

**WOMEN'S STUDIES WS**

**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.

QA: WS 201

**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. Intersections 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(3-0)

P: Completion of Tier I writing requirement.

Women's studies as interdisciplinary knowledge. Bibliographic and reference sources. Library organization of information. Research problems.

QP: WS 201 QA: WS 300

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

P: WS 201. R: Not open to freshmen.

Sexual violence against women and children from theoretical and applied perspectives. Rape, battering, incest and sexual harassment. Intersection of race, class, gender and violence. Individual and collective strategies to prevent or deter assault, race,

QP: WS 201 QA: WS 300

**302. Jewish Women's Experiences and Writings**  
Spring, 3(3-0)

P: WS 201. R: Not open to freshmen.

Diverse experiences of Jewish women from a multidisciplinary perspective. Gender construction of Jewish and majority women and men. Generations of immigrant Jewish women. Anti-Semitism. Jewish feminism. Political and economic issues.

QP: WS 201 QA: WS 300