

894. Planning Practicum
Fall. 4(0-8) P: UP 801, UP 823, UP 865 R: Open only to second-year master's students in the Urban and Regional Planning major.

Professional practice in the collection, analysis and synthesis of information by students or student groups under faculty supervision. Developing solutions to specific urban problems.
SA: UP 894A, UP 894B

897. Research Writing Seminar
Fall. 2(2-0) R: Open only to second-year master's students in the Urban and Regional Planning major.
Research writing and presentation methods.

899. 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: UP 897 or concurrently. R: Approval of department.

VETERINARY MEDICINE VM

College of Veterinary Medicine

101. Veterinary Medicine in Society
Spring. 1(1-0)
Role of the veterinary profession in animal and human health. Impact of veterinary medicine on society.

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 hematopoietic and cardiovascular systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.

290. Special Studies in Veterinary Medicine
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of college.
Directed individual study by a faculty member on an experimental, theoretical or applied problem. May involve a supervised off-campus experience.

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. Approval of college.
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. Approval of college.
Multidisciplinary approach to the urinogenital 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.

369. Introduction to Zoo and Aquarium Science
Spring. 3(3-0) Interdepartmental with Zoology; Landscape Architecture; Fisheries and Wildlife; and Park, Recreation and Tourism Resources. Administered by Zoology. P: (BS 110 or LBS 144 or LBS 148H)
Fundamentals of zoo and aquarium operations including research, interpretation, design, nutrition, captive breeding, conservation, ethics and management.

400. Laboratory Animal Technology
Fall. 2(1-2) P: VM 300, VM 301, 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 Technologists
Fall. 2(1-2) P: VM 300, VM 301, 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 Technologists
Spring. 3(3-0) 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 Technologists
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.
Nutritional 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. P: VM 302, VM 303, VM 304. R: Approval of college.
Application of principles and techniques in anesthesiology.

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.

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.

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.

Descriptions—Veterinary Medicine of Courses

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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 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.
- 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. 0(0-34) 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. 0(0-34) 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.
- 485. 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. Approval of college.
Application of principles and techniques in experimental, therapeutic, or laboratory 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.
Veterinary medical history and ethics. Client communication and animal behavior.
- 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. Not open to students with credit in VM 549.
Basic epidemiologic theory and study design. Veterinary descriptive and inferential biostatistics. Production veterinary medicine.
- 541. Veterinary Perspectives III**
Spring. 2(2-0) P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. 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.
- 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. 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.
- 546. Musculoskeletal Diseases**
Spring. 5(5-0) P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. 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. 2(2-0) P: Completion of semester 2 of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in VM 574.
Respiratory diseases of domestic animals. Pathogenesis, diagnosis, and treatment.

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(4-2) P: Completion of semester 4 of the graduate-professional program in the College of Veterinary Medicine. Not open to students with credit in VM 560 or VM 580.

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

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. Not open to students with credit in VM 562 or VM 568.

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. Not open to students with credit in VM 563 or VM 566.

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

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. Not open to students with credit in VM 540 or VM 576 or VM 586.

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. 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.

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.

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 years. 3(3-0) Interdepartmental with Epidemiology. Administered by Epidemiology. P: EPI 810. R: Open only to master's students in the Epidemiology major or approval of department.

Human susceptibility to diseases of animals. Modes of transmission, surveillance, and strategies for prevention of specific zoonotic diseases.

SA: HM 818

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, Summer. 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. Intersections of sex, race, class, and ethnicity. Theories by women of color.

203. Bibliographic Methods for Women's Studies Research

Fall of odd 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.

204. Lesbian, Bisexual, and Gay Studies: Psychological and Cultural Issues

Spring of odd years. 3(3-0) Interdepartmental with Psychology.

Nature, origins, and development of sexual orientation and sexual identity in the context of personality, culture, and society. Multicultural and feminist perspectives on the relationship between sexual orientation and gender, race, class, ethnicity, and religion.

211. Introduction to Gender and Environmental Issues

Spring. 3(3-0) Interdepartmental with Fisheries and Wildlife; Forestry; Public Resource Management; Resource Development. Administered by Fisheries and Wildlife. R: Not open to freshmen.

The concept of gender. Overview of environmental and habitat. Historical gender roles in environmental management. Gender-based theoretical perspectives. Case studies on developing and developed countries. Environmental management with emphasis on fisheries, wildlife and wetlands. Women environmental professionals.

225. Women and Language

Fall. 3(3-0) Interdepartmental with Linguistics. Administered by Linguistics.

Women and language in societies around the world. Issues such as status and verbal politeness, importance of names, gender differences in language use, women's multilingualism, sexist language, gendered language development in children.

301. Sexual Violence Against Women and Children: Theory and Response

Spring. 3(3-0) P: (WS 201 Or WS 202 Or WS 203) 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, class, gender and violence.

302. Jewish Women's Experiences and Writings

Fall of even years. 3(3-0) P: (WS 201 Or WS 202 Or WS 203) 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.

321. Lesbian Cultures and Identities

Fall of even years. 3(3-0) P: (WS 201) RB: (WS 202)

Lesbian history, lesbian cultures/communities, and the construction of lesbian identity.

322. Lesbian Literature, Arts and Popular Culture

Fall of odd years. 3(3-0) P: (WS 201) RB: (WS 202) Lesbian writers and artists as contributors to popular and high culture.

400. Women in Classical Greek Society

Spring of odd years. 3(3-0) Interdepartmental with Classical Studies. Administered by Classical Studies. R: Not open to freshmen and sophomores.

Image, role, and status of women in Greek society as seen through literary sources.

401. Feminist Theory

Spring. 4(4-0) P: (WS 201 and WS 202) R: Not open to freshmen or sophomores.

Integrative and multidisciplinary approaches to theory in women's studies. Conceptualization of sex and gender and the subordination of women. Feminist critique of theories of knowledge. Comparison of evolving feminist theories.

403. Women and Change in Developing Countries

Spring. 3(3-0) P: (WS 201 Or WS 202 Or WS 203) R: Not open to freshmen or sophomores.

Effects of economic, political, and social change on women in developing countries. Interrelationships of gender, class, race, and nationality.