

**490 Independent Study in Urban Planning**  
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Approval of department.

Faculty-supervised individual study in aspects of urban planning.

**494 Planning Practicum**  
Spring. 4(0-8) P:M: (UP 365 and UP 454)  
SA: UP 494A, UP 494B

Collection, analysis and synthesis of planning information for an established urban or regional area. Problem identification and alternative plan formulation. Formulation of comprehensive physical development policies and plans, implementation of programs.

**155 Veterinary Technology Careers and Professional Development**  
Fall. 1(1-0) R: Open only to Veterinary Technology majors.

Career options in veterinary technology, discussion of professional, ethical and legal considerations. Portfolio development, resume and cover-letter writing skills.

**160 Small Animal Nursing Skills**  
Spring. 2(1-3) P:M: (VM 110 and VM 130 and VM 140) R: Open only to Veterinary Technology majors.

Small animal nursing including principles of restraint, physical examination, medical management techniques, and behavior of common companion animals. Recognition of common canine and feline breeds.

**165 Large Animal and Laboratory Animal Nursing Care Techniques**  
Fall. 2(1-2) P:M: (VM 110 and VM 130 and VM 140) R: Open only to Veterinary Technology majors.

Fundamentals of the handling of equine, food animal and laboratory animal species. Breed identification, specimen collection, physical exam, medication administration and other nursing care procedures relevant to the species.

**170 Hematology and Immunology for Veterinary Technicians**  
Spring. 2(2-0) P:M: (VM 110 and VM 120) R: Open only to Veterinary Technology majors. C: VM 175 concurrently.

Structure and function of normal blood cells, cellular and humoral immunity, mechanisms of hemostasis, blood group serology, transfusion medicine and vaccinology.

**175 Clinical Pathology Laboratory I for Veterinary Technicians**  
Spring. 1(0-2) P:M: (VM 110 and VM 120) R: Open only to Veterinary Technology majors. C: VM 170 concurrently.

Veterinary clinical pathology laboratory including diagnostic procedures in hematology, serology and ELISA methodology.

**176 Clinical Pathology Laboratory II for Veterinary Technicians**  
Fall. 1(0-2) P:M: (VM 175 and VM 170) R: Open only to Veterinary Technology majors.

Comprehensive veterinary clinical pathology laboratory, including diagnostic procedures in urology, dermatology, cytology, and advanced methods in hematology

**210 Surgical Nursing for Veterinary Technicians**  
Fall. 2(2-0) P:M: (VM 160) R: Open only to Veterinary Technology majors. C: VM 215 concurrently, VM 303 concurrently.

Role of the veterinary technician as a member of the veterinary surgical team.

**215 Surgical Nursing and Anesthetic Management Laboratory**  
Fall. 1(0-4) R: Open only to Veterinary Technology majors. C: VM 210 concurrently, VM 303 concurrently.

Principles and techniques in veterinary surgical nursing and anesthesia.

**245 Parasitology for Veterinary Technicians**  
Spring. 2(1-2) P:M: (VM 140 and VM 175) RB: (VM 250) R: Open only to Veterinary Technology majors.

Parasites of veterinary and public health importance, including gross and microscopic morphology, transmission, and control.

**250 Veterinary Comparative Clinical Physiology**  
Spring. 5(5-0) P:M: (VM 110 and VM 120 and VM 130) R: Open only to Veterinary Technology majors.

Function, regulation and integration of organs and organ systems of common domestic species. Concepts with clinical relevance.

**255 Small Animal Diseases and Management**  
Fall. 3(3-0) P:M: (VM 160 and VM 170 and VM 250) R: Open only to Veterinary Technology majors.

Pathophysiology, transmission, diagnostic process, clinical management and prevention of canine and feline diseases.

**265 Dentistry Techniques for Veterinary Technicians**  
Spring. 1(0-4) P:M: (VM 215) R: Open only to Veterinary Technology majors.

Veterinary dental techniques and oral cavity assessment for companion animals.

**270 Health Care Development for Veterinary Technicians**  
Spring. 1(0-3) P:M: (VM 210 and VM 215 and VM 255) R: Open only to Veterinary Technology majors.

Service-oriented approach to the health care development in an operational animal care facility.

**275 Large Animal Diseases and Management**  
Spring. 3(3-0) P:M: (VM 165 and VM 170 and VM 250) R: Open only to Veterinary Technology majors.

Diseases, husbandry, preventative health care and client education for equine and food animal species.

**285 Clinical Nutrition for Veterinary Technologists**  
Fall. 1(1-0) P:M: (VM 250) R: Open only to Veterinary Technology majors.

Nutritional assessment and management of common domestic species in veterinary medicine.

**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: Open only to Pre-Veterinary and Veterinary Technology majors.

Faculty-directed individual study on an experimental, theoretical or applied problem. May involve a supervised off-campus experience.

**295 Biomedical Research and Regulatory Issues for Veterinary Technologists**  
Fall. 1(1-0) P:M: (VM 150) R: Open only to Veterinary Technology majors.

Principles and techniques of biomedical research, governance and regulation of animal care and use.

## 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.

**110 Veterinary Medical Terminology**  
Fall. 1(1-0) R: Open only to Veterinary Technology majors.  
Veterinary medical terminology, focusing on fundamental recognition, interpretation and usage of medical terms.

**120 Applied Biochemistry and Nutrients for Veterinary Technicians**  
Fall. 2(2-0) R: Open only to Veterinary Technology majors.  
Basic fundamentals of cell structure and metabolism. Energy metabolism, nutrients and nutrient requirements of common domestic species.

**130 Comparative Anatomy for Veterinary Technicians**  
Fall. 2(1-2) R: Open only to Veterinary Technology majors.  
Gross anatomy of the common animal species encountered in veterinary medicine. Overview of the functional anatomy of the musculoskeletal, digestive, cardiovascular, cutaneous, respiratory, urogenital, nervous, and endocrine systems and the special senses.

**140 Pharmacology for Veterinary Technicians**  
Fall. 2(2-0) R: Open only to Veterinary Technology majors.  
Fundamentals of characteristics, classification and usage of veterinary pharmaceuticals. Introduction to and application of dosage and formulation calculations.

**150 Hospital Procedures and Communication**  
Spring. 2(2-0) P:M: (VM 110 and VM 140) R: Open only to Veterinary Technology majors.  
Development of various modalities of professional and client communication skills.

## Veterinary Medicine—VM

- 303 Anesthesiology for Veterinary Technicians**  
Fall. 2(2-0) P:M: (VM 140 and VM 250) R:  
Open only to Veterinary Technology majors.  
C: VM 215 concurrently, VM 210 concurrently.  
Pharmacologic action of preanesthetic and anesthetic drugs. Principles and techniques of induction, maintenance, monitoring, and recovery of the patient. Humane methods of euthanasia.
- 304 Radiology for Veterinary Technicians**  
Spring. 2(2-0) P:M: (VM 110 and VM 130)  
R: Open only to Veterinary Technology majors.  
Production of radiographs, components of the x-ray machine, use of screens and grids, handling film, imaging quality, film processing, patient positioning, and radiation safety.
- 305 Hospital Practice Management for Veterinary Technologists**  
Spring. 2(2-0) P:M: (VM 150 and VM 155)  
R: Open only to Veterinary Technology majors.  
Veterinary practice economics, personnel management, inventory control and marketing techniques.
- 310 Advanced Clinical Pathology Techniques**  
Spring. 1(0-2) P:M: (VM 175 and VM 176)  
R: Open only to Veterinary Technology majors.  
Advanced cytologic techniques including sample collection, processing and evaluation.
- 369 Introduction to Zoo and Aquarium Science**  
Spring. 3(3-0) Interdepartmental with Zoology; Landscape Architecture; Fisheries and Wildlife. Administered by Department of Zoology. P:M: (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.
- 410 Veterinary Technology Clerkship in Anesthesiology**  
Fall, Spring, Summer. 3 credits. P:M: (VM 270 and VM 275 and VM 303 and VM 304)  
RB: Completion of preclinical coursework.  
R: Open only to Veterinary Technology majors.  
Application of principles and techniques in anesthesiology.
- 411 Veterinary Technology Clerkship in Radiology**  
Fall, Spring, Summer. 3 credits. P:M: (VM 270 and VM 275 and VM 303 and VM 304)  
RB: Completion of preclinical coursework.  
R: Open only to Veterinary Technology majors.  
Application of principles and techniques in radiology.
- 412 Veterinary Technology Clerkship in Companion Animal Medicine**  
Fall, Spring, Summer. 3 credits. P:M: (VM 270 and VM 275 and VM 303 and VM 304)  
R: Open only to Veterinary Technology Majors who have completed the preclinical coursework.  
Application of principles and techniques in restraint, examination, nursing care, monitoring, and preventive medicine of companion animals.
- 413 Veterinary Technology Clerkship in Companion Animal Surgery**  
Fall, Spring, Summer. 3 credits. P:M: (VM 270 and VM 275 and VM 303 and VM 304)  
RB: Completion of preclinical coursework.  
R: Open only to Veterinary Technology majors.  
Application of principles and techniques in surgical nursing.
- 414 Veterinary Technology Clerkship in Equine Medicine and Surgery**  
Fall, Spring, Summer. 3 credits. P:M: (VM 415) RB: Completion of preclinical coursework.  
R: Open only to Veterinary Technology majors.  
Application of principles and techniques in equine medicine and surgery.
- 415 Veterinary Technician Clerkship in Food Animal and Equine Medicine and Surgery**  
Fall, Spring, Summer. 3 credits. P:M: (VM 270 and VM 275 and VM 303 and VM 304)  
RB: Completion of preclinical coursework.  
R: Open only to Veterinary Technology majors.  
Application of principles and techniques in food animal and equine medicine and surgery.
- 450 Veterinary Technology Clerkship in Emergency Medicine**  
Fall, Spring, Summer. 3 credits. P:M: (VM 412) RB: (VM 410 and VM 411 and VM 413)  
Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
Application of principles and techniques in emergency medicine.
- 451 Veterinary Technology Clerkship in Cardiology**  
Fall, Spring, Summer. 3 credits. P:M: (VM 412) RB: (VM 410 and VM 411 and VM 413)  
Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
Application of principles and techniques in cardiology.
- 452 Veterinary Technology Clerkship in Neurology**  
Fall, Spring, Summer. 3 credits. P:M: (VM 412) RB: (VM 410 and VM 411 and VM 413)  
Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
Application of principles and techniques in neurology and physical therapy.
- 453 Veterinary Technology Clerkship in Ophthalmology**  
Fall, Spring, Summer. 3 credits. P:M: (VM 412 and VM 413) RB: (VM 410)  
Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
Application of principles and techniques in ophthalmology.
- 454 Veterinary Technology Clerkship in Critical Care**  
Fall, Spring, Summer. 3 credits. P:M: (VM 412) RB: (VM 410 and VM 411 and VM 413)  
Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
Application of principles and techniques in critical care.
- 466 Veterinary Technology Clerkship in Large Animal Anesthesia**  
Fall, Spring, Summer. 3 credits. P:M: (VM 410 and VM 415) RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors. SA: VM 460, VM 472  
Application of principles and techniques of food animal and equine anesthesia.
- 470 Veterinary Technology Clerkship in Food Animal Medicine**  
Fall, Spring, Summer. 3 credits. P:M: (VM 415) RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
Application of principles and techniques in food animal medicine.
- 480 Veterinary Technology Clerkship in Clinical Pathology**  
Fall, Spring, Summer. 3 credits. P:M: (VM 270 and VM 275 and VM 303 and VM 304)  
RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
Application of principles and techniques in clinical pathology.
- 482 Veterinary Technology Clerkship in Necropsy**  
Fall, Spring, Summer. 3 credits. P:M: (VM 270 and VM 275 and VM 303 and VM 304)  
RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
Application of principles and techniques in postmortem 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:M: (VM 270 and VM 275 and VM 303 and VM 304)  
RB: (VM 410 and VM 482) Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
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:M: (VM 270 and VM 275 and VM 303 and VM 304)  
RB: (VM 410) Completion of preclinical coursework. R: Open only to Veterinary Technology majors.  
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:M: (VM 302) R: Open only to senior students in the Veterinary Technology major.  
Application of principles and techniques in experimental, therapeutic, or laboratory medicine.

**486 Veterinary Technology Clerkship in Clinical Parasitology**  
Fall, Spring, Summer. 3 credits. P:M: (VM 245) RB: Completion of preclinical coursework. R: Open only to Veterinary Technology majors.

Application of principles and techniques in clinical parasitology.

**490 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:M: (VM 270 and VM 275 and VM 303 and VM 304) RB: Completion of the didactic core curriculum. R: Open only to Veterinary Technology majors.

Application of principles and techniques in experimental, therapeutic, or laboratory medicine.

## WOMEN'S STUDIES WS

### Women's Studies Program College of Arts and Letters

**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:M: (WS 201) RB: 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:M: 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; Environmental Economics and Policy; Resource Development. Administered by Department of Fisheries and Wildlife. R: Not open to freshmen. SA: PRM 211

The concept of gender. Overview of environment 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 Department of Linguistics and Germanic, Slavic, Asian and African Languages.

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) RB: (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) RB: (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) RB: (WS 201 and 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) RB: (WS 201 and 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 Department of French, Classics, and Italian. R: Not open to freshmen or sophomores.

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

**401 Feminist Theory**  
Spring. 4(4-0) P:M: (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) RB: (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.

**404 Women and the Law in the United States**  
Fall of odd years. Spring of odd years. 3(3-0) Interdepartmental with Fisheries and Wildlife. RB: (WS 201 or WS 202 or WS 203) R: Not open to freshmen or sophomores.

Law in the United States as a vehicle for structuring and maintaining women's social roles, and for social change.

**413 Families in Historical Perspective**  
Fall. 3(3-0) Interdepartmental with History. Administered by Department of History. R: Not open to freshmen.

Family forms and socio-economic change in Europe and the United States. Gender, childhood, courtship, sexual relations, marriage, divorce, childbearing, and old age in peasant, industrial, and postindustrial society. War, welfare state, and the family. The marginalized: vagrants, foundlings, immigrants, and single mothers.

**420 History of Sexuality since the 18th Century**  
Fall, Spring. 3(3-0) Interdepartmental with History. Administered by Department of History. R: Not open to freshmen

Changing gender roles, sex in the Victorian era, prostitution, pornography, birth control, emergence of homo- and heterosexuality, sex under fascism, the sexual revolution, contemporary conflicts.

**425 Women and Criminal Justice**  
Spring of even years. 3(3-0) Interdepartmental with Criminal Justice. Administered by School of Criminal Justice. RB: (CJ 220 Or WS 201) R: Open only to juniors or seniors.

Theories on women's victimization and criminality. Women's experiences as victims, offenders, and criminal justice employees. Laws and their effects on the rights of women in the criminal justice system.

**453 Women and Work: Issues and Policy Analysis**  
Spring. 3(3-0) Interdepartmental with Environmental Economics and Policy; Economics. Administered by Department of Agricultural Economics. RB: (EC 201 or EC 202 or EEP 201 or concurrently) R: Not open to freshmen or sophomores.

Current and past quantity and quality of women's participation in the labor force. Gender differentials in earnings and occupations. Employment discrimination. Laws, especially affirmative action laws. Social policy effects. International issues.

**482 Theory and Practice of Feminist Literary Criticism**  
Spring. 3(3-0) Interdepartmental with English. Administered by Department of English. P:M: (ENG 353 or ENG 379 or WS 202) and completion of Tier I writing requirement. R: Open only to juniors or seniors in the Department of English or Women's Studies Program or English disciplinary minor.

Feminist literary critical theory and its implications for reading and studying literature.