

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.

Women's Studies—WS

- 490 Independent Study**
Fall, Spring. 1 to 3 credits. A student may earn a maximum of 8 credits in all enrollments for this course. RB: (WS 201 or WS 202 or WS 203) R: Open only to juniors or seniors; approval of program.
Individual reading and research on women and gender.
- 491 Special Topics**
Fall, Spring. 3 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. RB: (WS 201 Or WS 202 Or WS 203) R: Not open to freshmen or sophomores.
In-depth study of special topic emphasizing women and gender.
- 492 Women's Studies Senior Seminar (W)**
Spring. 4(4-0) P:M: (WS 201 and WS 203) and completion of Tier I writing requirement. R: Not open to freshmen or sophomores.
Synthesis and elaboration of ideas and perspectives central to women's studies. Current areas of interest and research in feminist scholarship.
- 493 Internship**
Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. P:M: (WS 201 or WS 202 or WS 203) R: Not open to freshmen or sophomores. Approval of program.
Integration of feminist knowledge through work experience related to women's concerns. Experience in legislative, community, or educational settings.

ZOOLOGY

ZOL

Department of Zoology College of Natural Science

- 101 Preview of Zoology**
Fall, Spring. 1(1-0) R: Open only to freshmen in the Zoology major.
Zoology as a discipline. Availability of diverse career options. Integration of human and technical skills in scientific problem solving.
- 111L Cell and Molecular Biology Laboratory**
Fall, Spring, Summer. 2(1-3) Interdepartmental with Biological Science; Microbiology and Molecular Genetics; Plant Biology. Administered by College of Natural Science. P:M: (BS111 or concurrently) Not open to students with credit in LBS 159H.
Principles and applications of common techniques used in cell and molecular biology.
- 141 Introductory Human Genetics**
Fall, Spring. 3(3-0) R: Not open to students in the Biochemistry, Plant Biology, Entomology, Medical Technology, Clinical Laboratory Science, Physiology, Zoology, Microbiology, Biological Science-Interdepartmental, or Human Biology majors or to students in the corresponding Lyman Briggs School coordinate majors or to students in the Lyman Briggs School Biology field of concentration. Not open to students with credit in ZOL 341 or ZOL 344.
Inheritance of human traits. Impact of genetic technology on society. Ethical and legal issues. Risks and benefits of genetic technology.

- 306 Invertebrate Biology**
Fall. 4(3-3) P:M: (BS 110 or LBS 144 or LBS 148H)
Systematics, morphology, and natural history of invertebrate animals. Identification of live and preserved specimens. Recognition of selected groups.
- 313 Animal Behavior**
Fall, Spring. 3(3-0) P:M: (BS 110 or LBS 144 or LBS 148H) R: Not open to freshmen. SA: ZOL 213
Development, physiological mediation, adaptive significance and evolution of behavior.
- 316 General Parasitology**
Spring. 3(3-0) P:M: (LBS 144 or LBS 145 or LBS 148H or LBS 149H or BS 110) or (BS 111 and BS 111L)
Identification, life history, host-parasite relationships, and epidemiology of protozoan, helminth, acanthocephalan, copepod, and arthropod parasites of animals and humans.
- 316L General Parasitology Laboratory**
Spring. 1(0-2) P:M: (ZOL 316 or concurrently) R: Not Open to freshman
Laboratory diagnosis of protozoans, helminths, acanthocephalans, copepods, and arthropods that infect humans and animals. Animal necropsy.
- 319 Introduction to Earth System Science**
Fall. 3(3-0) Interdepartmental with Entomology; Plant Biology; Geological Sciences; Sociology. Administered by Department of Entomology. RB: Completion of one course in biological or physical science.
Systems approach to Earth as an integration of geochemical, geophysical, biological and social components. Global dynamics at a variety of spatio-temporal scales. Sustainability of the Earth system.

- 320 Developmental Biology**
Fall. 4(3-3) P:M: (BS 110 or LBS 144 or LBS 148H) and (BS 111 or LBS 145 or LBS 149H) SA: ZOL 220
Principles of development, emphasizing vertebrates. Illustrations from morphological and experimental investigations.
- 328 Comparative Anatomy and Biology of Vertebrates**
Spring. 4(3-3) P:M: (BS 110 or LBS 144 or LBS 148H) and completion of Tier I writing requirement. SA: ZOL 228
Comparative morphology and natural history of vertebrates. Dissection of representatives of most vertebrate classes.
- 341 Fundamental Genetics**
Fall, Spring, Summer. 4(4-0) Interdepartmental with Plant Biology. P:M: (BS 111 or LBS 145 or LBS 149H)
Principles of heredity in animals, plants and microorganisms. Classical and molecular methods in the study of gene structure, transmission, expression and evolution.
- 343 Genetics Laboratory**
Spring. 2(0-4) P:M: (ZOL 341 or concurrently) and completion of Tier I writing requirement.
Experiments involving genetics of *Drosophila* and other eucaryotic organisms.

- 353 Marine Biology**
Fall. 4(4-0) P:M: (BS 110 or LBS 144 or LBS 148H) and completion of Tier I writing requirement.
Analysis of marine and estuarine systems. Integration of biology, chemistry, and physics. Life histories of marine organisms. Biology of special marine habitats including rocky intertidal zones, upwellings, coral reefs and deep sea.
- 355 Ecology**
Fall, Spring, Summer. 3(3-0) Interdepartmental with Plant Biology. P:M: (BS 110 or LBS 144 or LBS 148H) SA: ZOL 250
Plant and animal ecology. Interrelationships of plants and animals with the environment. Principles of population, community, and ecosystem ecology. Application of ecological principles to global sustainability.
- 355L Ecology Laboratory**
Fall, Spring, Summer. 1(0-3) Interdepartmental with Plant Biology. P:M: (ZOL 355 or concurrently or PLB 355 or concurrently) and completion of Tier I writing requirement.
Population, community, and ecosystem ecology, utilizing plant and animal examples to demonstrate general field principles.
- 360 Biology of Birds**
Fall. 4(3-3) P:M: (BS 110 or LBS 144 or LBS 148H)
Behavior, ecology, evolution, and systematics of birds; biodiversity. Laboratories emphasize diversity of form and function, life history patterns, and identification.
- 361 Michigan Birds**
Summer. 4(3-3) Summer: Given only at W.K. Kellogg Biological Station. P:M: (BS 110 or LBS 144 or LBS 148H) Not open to students with credit in ZOL 360.
Field study of avian diversity, ecology, and behavior using current systematics and habitat identification techniques.
- 365 Biology of Mammals**
Spring. 4(3-3) P:M: (BS 110 or LBS 144 or LBS 148H)
Analysis of the behavior, ecology, evolution, and systematics of mammals. Laboratories emphasize diversity of form and function, life history patterns, and identification. Field trips required.
- 369 Introduction to Zoo and Aquarium Science**
Spring. 3(3-0) Interdepartmental with Landscape Architecture; Fisheries and Wildlife; Veterinary Medicine. 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.
- 370 Introduction to Zoogeography**
Fall. 3(3-0) Interdepartmental with Fisheries and Wildlife; Geography. P:M: (ZOL 355)
Patterns of geographical distribution of animals and the ecological and historical processes leading to these patterns.
- 384 Biology of Amphibians and Reptiles**
Fall. 4(3-3) P:M: (BS 110 or LBS 144 or LBS 148H)
The evolution, systematics, ecology, and behavior of amphibians and reptiles. Laboratory emphasizes diversity and identification of families and Great Lakes species. Field trips may be required.