

GRADUATE COURSES

- A selection of courses from which graduate students in the Department of Dairy Science commonly build their individual programs.
- Course and credit requirements are summarize online:
 - [Masters](#)
 - [PhD](#)
- Additional courses and details can be found on the university Timetable:
https://banweb.banner.vt.edu/ssb/prod/HZSKVTSC.P_DisRequest

PHYSIOLOGY COURSES

Course #	Course
ALS 5304	Advanced Physiology and Anatomy of Domestic Animals (Fall)
ALS-5314	Comp Repro Physiology (Spring)
ALS 5064	Sem Mol Cell Biotech (Spring)

GENETICS COURSES

Course #	Course
Quantitative genetics and Genomics in animal breeding	http://enbgeo.iddl.vt.edu/

NUTRITION COURSES

Course #	Course
ALS 5144	Molecular Aspects of Nutrition and Disease (odd years)
ALS 5034	Mathematical Modeling in Biological Systems (online)
ALS-5115, 5116	Nutrition I and II (Fall, Spring)
ALS 5084	Adv Ruminant Nutr Colloquium (Spring)
ALS 5984	Advanced Topics in Ruminant Nutrition (online, even years)

MANAGEMENT COURSES

Course #	Course
AEE 5044	Program and Curriculum Design in Agricultural and Extension Ed. (Fall)
AAEC 5154	Int Agr Dvlp & Trade (Fall)
AAEC 5946	Econometric Theory & Practice (Fall)
AAEC 5024	Mathematical Programming for Economists (Fall)

GRADUATE COURSES**IMMUNOLOGY/MICROBIOLOGY COURSES**

Course #	Course
BIOL 4704	Immunology (Spring)
BIOL 4674	Pathogenic Bacteriology (Fall)
BIOL 4624	Microbial Genetics (Fall)
BIOL 4634	Microbial Physiology
DASC 4384	Mammary Immunology (Spring – Even years)
BMVS 5044	Veterinary Immunology (Fall)
BIOL 5064	Sem Mol Cell Biotech (Fall, Spring)
BIOL 5564	Adv Infectious Disease Ecology (Fall)
BIOL 5664	Advanced Virology (Fall)
BIOL 5674	Adv Pathogenic Bacteriology (Fall)
BIOL 5734	Advanced Inflammation Biology (Spring)
BMVS 6554	Advanced Epidemiology (Spring)
CEE 5194	Environmental Engineering Microbiology (Fall)
CSES 4164	Environmental Microbiology (Fall/Spring)
BIOL 6704	Topics in Immunology (Fall)
BMVS 5284	Cellular Pathology (Fall)
BMVS 5005/5006	Emerging Infectious Diseases (Fall/Spring)

BIOCHEMISTRY/CHEMISTRY COURSES

Course #	Course
ALS 5344	Molecular Biology Life Sciences
BCHM 5224	Protein Structure and Function (Fall)
BCHM 5344	Molec Biol Life Sci (Spring)
BCHM 5124	Life Sciences Biochemistry (Fall)

STATISTICS COURSES

Course #	Course
STAT 5615/16	Statistics in Research (Fall/Spring)
STAT 5605/06	Biometry (Fall/Spring)
ALS 5405	Management of Data from Animal Experiments
ALS 5406	Analysis of Animal Experiments with SAS
STAT 4214	Methods of regression analysis (Spring)
STAT 5204G	Experimental Design: Concepts and Applications (Fall/Spring)
STAT 5204/6504	Experimental design and analysis I / II (Spring/
STAT 5674	Methods in Biostatistics (Fall)

GRADUATE COURSES
MISCELLANEOUS COURSES

Course #	Course
ALS 5204	Research and Information Systems in the Life Sciences (Fall)
ALS 5094	Effective Grant Writing Biomed (Spring)
ALS 5214	Info Sys/Rsrch in Life Sci (Spring)
BIOL 5154	Exercises in Grantsmanship (Spring)
ALS-5324	Research Ethics Ag & Life Sci (Fall)
CSES 5544	Soil-plant-animal interrelationships in grasslands (Spring)

WASTE MANAGEMENT/TREATMENT COURSES

Course #	Course
BSE 4304	Nonpoint source pollution modeling and mgmt. (Fall)
CEE 4104	Water & Wastewater treatment design (Fall)
CEE 5104/5704	Environmental Chemistry plus lab (Fall)
CEE 5134	Engineering aspects of water quality (Fall)
CEE 5184	Techniques for Environmental Analysis (Spring)

SEMINARS

Course #	Course
DASC 5004	Dairy Science Seminar (Fall/Spring)
ALS 5094	Effective Grant Writing Biomed (Spring)
ALS 5004	Animal Nutrition Seminar (Spring)
DASC 5084	Advanced Ruminant Nutrition Colloquium (Fall, Spring)
GRAD 5004	GTA Training Workshop
STS 5444	Issues in Bioethics

GRAD

Course #	Course
GRAD 5014	Academic Integ & Plagiarism (Fall)
GRAD 5104	Preparing Future Professoriate (Fall/Spring)
GRAD-5114	Contemporary Pedagogy (Fall/Spring)
GRAD-5134	Topics Interdisciplinary Res (Spring)
GRAD - 5304	Career Dev-Future Professional (Spring)
GRAD-5214	Diversity for Global Society (Fall)
ALS-5324	Research Ethics Ag & Life Sci (Fall)

GRADUATE COURSES**TA OPPORTUNITIES**

Course #	Course
DASC 2474	Dairy Science and Industry (Spring)
DASC 3134	Animal Agriculture and the Environment (Spring)
DASC 3274	Applied Dairy Cattle Nutrition (Fall)
ALS 3204	Animal Nutrition and Feeding (Spring)
DASC 3474	Dairy Information Systems (Fall)
DASC 4475/76	Dairy Enterprise Management (Spring/Fall)
DASC 4074	Professional Development (Fall)
APSC-4304	Bovine Reproduction Practices
ALS 2304	Animal Physiology and Anatomy (Spring)