BIOTECHNOLOGY OPTION FOR ANIMAL SCIENCE

Curriculum Requirements & Recommendations

GENERAL EDUCATION REQUIREMENTS

Communications.

English 1000 3h
Communication 1200 3h
English 2030 (Professional writing) 3h
or an Ag Journalism class

Mathematics.

Math 1100 (or higher) 3h
Stats 1400 3h

Physical & Biological Sciences.

Biology 1500 5h
Chem 1310, 1320 & 1330 8h
Chem 2050 (f) 5h
Recommend:
Chem 2100, 2110 & 2130 (8h total)
Biochem 3630 (w) 3h
Recommend:
Biochem 4270 & 4272 (6h total)

Social & Behavioral Sciences (CAFNR requirements)

Ag Econ 1041 & 1042 6h
(or equivalent micro/macroeconomics series)
History 1100 or 1200 or 3h
Political Sci 1100 or 2100

Humanities & Fine Arts (Any approved CAFNR credits) 6h

Recommend:
Philosophy 1150 (bioethics)
Philosophy 4400 (Philosophy of Science)
(or other medical/bioethics)
GENERAL ED. TOTAL................................. 51-57 hours

DIVISION REQUIREMENTS

**Freshman year:**
A.S. 1011  Animal Science (f)  3h
A.S. 1065  Animal Science Laboratory Practicum  2h
A.S. 1013  Biotechnology in Animal Agriculture (sp)  3h

**Sophomore year:**
A.S. 2165 Ruminant Production (f)  3h
A.S. 2175 Monogastric Production (sp)  3h
A.S. 3254  Physiology of Domestic Animals (f)  3h
A.S. 3255  Physiology Laboratory (sp)  2h

**Junior Year:**
A.S. 3213/4323 Genetics; MRP  5h
A.S. 3212 Prin of Animal Nutrition (f)  2h
A.S. 4314  Reproductive Physiology (w)  3h

**F/S/J Division TOTAL............................................ 29 hours**

**Senior year:**
Senior Biotechnology Coursework  7 h
A.S. 4973  Molecular and Cellular Techniques in Animal Science; WI  3h
A.S. 4994 Problems: Laboratory Research in Animal Science  4h

One senior Production Systems course:  3h

A.S. 4975  Beef Production (sp)
A.S. 4976  Dairy Production (f)
A.S. 4977  Horse Production (sp)
A.S. 4978  Swine Production (f)
A.S. 4979  Poultry Production (sp)

Molecular/Cellular Biology, Biochemistry or Chemistry Classes:  6-8 h
(Choose two)

Biology 2300 *Introduction to Cell Biology* 4h
Chemistry 3200 *Quantitative Methods Analysis with Lab* 4h
Biology 3750 *General Microbiology* 4h
Microb 3200 *Introduction to Medical Microbiology and Immunology with lab* 4h
Biochem 4270 *Biochemistry I* 3h
Biochem 4272 *Biochemistry II* 3h
Microb 4304 *Immunology* 3h
Bio Sci 4972 *Developmental Biology* 3 h
Bio Sci 4976 *Molecular Biology* 3 h
Vet BioMed 4333 *Veterinary Cell Biology* 4 h
Med Pharm & Phys 4310 *Mammalian Cell Function* 3 h

*Note*: Some of these classes have pre-requisites that are not included in the Gen Ed and Division Requirements. Students will need to plan their coursework accordingly.

**Animal Science Electives:** 6 h
(Choose two)

A.S. 2111  Sophomore seminar; **WI** 3h
A.S. 3214  Prin of Meat Sci (f) 3h
A.S. 3231  Prin of Dairy Foods Sci (w) 3h
A.S. 3232  Applied Nutrition (w) 3h
A.S. 4312  Monogastric Nutrition (f) 3h
A.S. 4332  Ruminant Nutrition (w) 3h
A.S. 4354  Physio/Biochem Muscle Food (w) 3h
A.S. 4384  Reproductive Management (f) 3h
A.S. 4387  Equine Breeding Management 3h
A.S. 4975  Beef Production **WI** (w) 3h
A.S. 4976  Dairy Production **WI** (f) 3h
A.S. 4977  Horse Production  (w) 3h
A.S. 4978  Swine Production **WI** (f) 3h
A.S. 4979  Poultry Production **WI** (w) 3h

**SENIOR A.S. REQUIRED TOTAL** ................. 22-24 hours

**ELECTIVES** .......................................................... 18-26 hours