

ANIMAL SCIENCES-ANEQ (ANEQ)

Courses

ANEQ 101 Food Animal Science Credits: 4 (3-3-0)

Course Description: Development, organization, trends and management of the livestock industry; emphasis on applying science to the production of food and fiber.

Prerequisite: None.

Registration Information: Required field trips.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 102 Introduction to Equine Science Credits: 4 (3-2-0)

Course Description: Equine physiology, production systems and management systems as it pertains to the equine industry and management.

Prerequisite: None.

Registration Information: Must register for lecture and laboratory. Required field trips.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 104 Values, Culture, and Food Animal Agriculture Credits: 3 (3-0-0)

Also Offered As: PHIL 104.

Course Description: Evolution of the social values and cultural understandings shaping modern animal agriculture; current problems in animal agriculture.

Prerequisite: None.

Registration Information: Non-Animal Science majors with a freshman or sophomore standing. Credit not allowed for both ANEQ 104 and PHIL 104.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 105 Introduction to Large Animal Anatomy Credit: 1 (0-2-0)

Course Description: Basic gross animal anatomy.

Prerequisite: None.

Registration Information: Animal Science or Equine Science majors only.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 201A Preparation of Horses for Competition: Western Credits: 2 (0-4-0)

Course Description: Development of skills to prepare and present horses in competitions aimed at enhancing their value.

Prerequisite: None.

Registration Information: Written consent of instructor.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 201B Preparation of Horses for Competition: English Credits: 2 (0-4-0)

Course Description: Development of skills to prepare and present horses in competitions aimed at enhancing their value.

Prerequisite: None.

Registration Information: Written consent of instructor.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 202 Safety in Horse Handling Credit: 1 (1-0-0)

Course Description: Horse handling safety skills.

Prerequisite: None.

Term Offered: Fall.

Grade Mode: S/U Sat/Unsat Only.

Special Course Fee: Yes.

ANEQ 203 Equine Management Credits: 2 (1-2-0)

Course Description: Equine management and care techniques with hands-on experience.

Prerequisite: ANEQ 102.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 204 Equine Facilities Management Credits: 3 (2-2-0)

Course Description: Understanding of all aspects required to manage an equine facility coupled with hands-on experience.

Prerequisite: ANEQ 102.

Registration Information: Must register for lecture and laboratory. Required field trips.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 220 Feeds and Feeding Credits: 2 (2-0-0)

Course Description: Advantages and limitations of feedstuffs; nutrients and their functions; and feed practices for all physiological stages of livestock.

Prerequisite: ANEQ 101 or ANEQ 102.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 230 Farm Animal Anatomy and Physiology Credits: 3 (3-0-0)

Course Description: Basic concepts of farm animal anatomy and physiology; emphasis on growth, digestion, and reproduction.

Prerequisite: LIFE 100 to 199 - at least 3 credits.

Registration Information: Credit not allowed for both ANEQ 230 and ANEQ 305.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 249 Introduction to the Trail Riding Industry Credit: 1 (0-2-0)

Course Description: Emphasis on horse care, regulations, first aid, health, training, and hosting a trail ride.

Prerequisite: None.

Registration Information: Written consent of instructor.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 250 Live Animal and Carcass Evaluation Credits: 3 (1-4-0)

Course Description: Growth, development, and value-determining characteristics of market animals.

Prerequisite: ANEQ 101 or ANEQ 102.

Registration Information: Must register for lecture and laboratory.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 286 Livestock Practicum Credits: 2 (0-0-0)

Course Description: Livestock breeds and terminology; classification of feedstuffs; livestock handling and care; basic animal management techniques, hands-on experience.

Prerequisite: ANEQ 101 or ANEQ 102.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 292 Equine Industry Seminar Credit: 1 (1-0-0)

Course Description: Overview of the equine industry and industry careers.

Prerequisite: ANEQ 102.

Registration Information: Sections may be offered: Online.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 293 Animal Science Career Exploration Seminar Credit: 1 (0-0-1)

Course Description: Better understanding of individual abilities, strengths and passions is imperative to be successful in a career search as well as to succeeding in life. Designed to help students explore who they are individually, how they might fit into a career or graduate programs in animal agriculture; how to prepare marketing materials to be competitive in selection processes.

Prerequisite: ANEQ 101.

Registration Information: This is a partial semester course. Sophomore standing.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 300A Topics in Animal Sciences: Livestock Handling Credit: 1 (1-0-0)

Course Description:

Prerequisite: None.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 300B Topics in Animal Sciences: Livestock Entomology Credit: 1 (1-0-0)

Also Offered As: BSPM 300.

Course Description: Identification, biology and management of insect, tick, and mite pests.

Prerequisite: BZ 100 to 199 between 3 and 5 credits - at least 3 credits or LIFE 100 to 199 between 3 and 5 credits - at least 3 credits.

Registration Information: Credit not allowed for both ANEQ 300B and BSPM 300.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 300E Topics in Animal Sciences: Family Ranching Credit: 1 (1-0-0)

Course Description:

Prerequisite: ANEQ 101 or ANEQ 102.

Term Offered: Spring (odd years).

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 300L Topics in Animal Sciences: Quality Assurance Credits: 2 (2-0-0)

Course Description:

Prerequisite: ANEQ 101 or ANEQ 102.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 300N Topics in Animal Sciences: Seedstock Merchandising Credits: 2 (2-0-0)

Course Description: Overview of beef seedstock industry, including hands-on selection, management, and marketing of cattle.

Prerequisite: None.

Restriction: Must be a: Junior, Senior, Senior - 5yr Bachelor, Senior - Post Bachelor, Senior - Second Bachelor.

Registration Information: Junior or senior standing. Course required to apply for seedstock team.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 300R Topics in Animal Sciences: Calving and Calf Care Credits: 2 (1-2-0)

Course Description:

Prerequisite: (ANEQ 310) and (ANEQ 478 or ANEQ 510).

Registration Information: Senior standing. Required field trips.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 300T Topics in Animal Sciences: Event, Fair, and Show Management Credit: 1 (1-0-0)

Course Description:

Prerequisite: ANEQ 101 or ANEQ 102.

Registration Information: Credit not allowed for both ANEQ 300T and ANEQ 358.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 300U Topics in Animal Sciences: Seedstock Sale Management Credits: 2 (2-0-0)

Course Description: Develop, plan, and implement an effective seedstock cattle sale based on genetic information, customer service principles, and client relationships.

Prerequisite: ANEQ 300N.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 300W Topics in Animal Sciences: Equine Manure**Management Credit: 1 (1-0-0)****Course Description:** Practices which maximize the benefits of manure to soils and crops while minimizing hazards to air and water quality; complying with regulations.**Prerequisite:** ANEQ 101 or ANEQ 102.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 303 Equine Digital Photography Credits: 3 (2-2-0)****Course Description:** Basics of photographic principles and DSLR cameras with a focus on equine subjects.**Prerequisite:** ANEQ 102.**Registration Information:** Sophomore standing. Must register for lecture and laboratory. Credit not allowed for both ANEQ 303 and ANEQ 380A4.**Term Offered:** Fall.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 305 Functional Large Animal Anatomy/Physiology Credits: 3 (3-0-0)****Course Description:** Concepts of large animal anatomy and physiology; emphasis on growth, digestion, and reproduction.**Prerequisite:** (LIFE 100 to 199 - at least 3 credits) and (CHEM 107 or CHEM 111).**Restriction:** .**Registration Information:** Credit not allowed for both ANEQ 305 and ANEQ 230.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 310 Animal Reproduction Credits: 3 (3-0-0)****Course Description:** Anatomy and physiology of the reproductive system; causes of reproductive failure in farm animals; methods of improving reproductive performance.**Prerequisite:** ANEQ 230 or BMS 300 or ANEQ 305.**Registration Information:** Sections may be offered: Online.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 312 Animal Ultrasonography Credits: 2 (1-2-0)****Course Description:** Fundamentals and application of using ultrasound in farm animals; basic reproductive technologies; utilizing ultrasound as a management tool.**Prerequisite:** (ANEQ 230 or ANEQ 305) and (ANEQ 310).**Registration Information:** Must register for lecture and laboratory.**Term Offered:** Fall.**Grade Mode:** Traditional.**Special Course Fee:** Yes.**ANEQ 313 Prevention and Control of Livestock Diseases Credits: 3 (3-0-0)****Also Offered As:** VS 313.**Course Description:** Common ailments of livestock; sanitation and disease prevention and control.**Prerequisite:** (ANEQ 230 or BMS 300 or ANEQ 305) and (ANEQ 310, may be taken concurrently and ANEQ 320, may be taken concurrently).**Registration Information:** Junior or senior standing. Credit not allowed for both ANEQ 313 and VS 313.**Term Offered:** Fall.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 315 Equine Behavior Credits: 2 (1-2-0)****Course Description:** Equine behaviors related to training and learning.**Prerequisite:** ANEQ 102.**Registration Information:** Sophomore or higher standing. Must register for lecture and laboratory.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** Yes.**ANEQ 320 Principles of Animal Nutrition Credits: 4 (3-3-0)****Course Description:** Understanding of nutrients and nutrient function required to support animal life through all physiological states.**Prerequisite:** (ANEQ 230 or BMS 300 or BMS 360 or ANEQ 305) and (CHEM 100 to 199 - at least 3 credits).**Registration Information:** Must register for lecture and laboratory.

Required field trips.

Terms Offered: Fall, Spring.**Grade Mode:** Traditional.**Special Course Fee:** Yes.**ANEQ 322 Pet Nutrition Credits: 2 (2-0-0)****Course Description:** Nutrients, nutrient requirements, feeding practices, food sources and management for companion animals (dogs, cats, birds, fish, reptiles, etc.).**Prerequisite:** ANEQ 320 or ANEQ 345 or FSHN 350.**Registration Information:** Offered as a correspondence or online course only.**Terms Offered:** Fall, Spring, Summer.**Grade Modes:** S/U within Student Option, Trad within Student Option.**Special Course Fee:** No.**ANEQ 323 Zoo Nutrition Credits: 2 (2-0-0)****Course Description:** Unique nutritional requirements of mammalian, avian, and reptile captive wild animals; management protocols needed.**Prerequisite:** ANEQ 320 or ANEQ 345 or FSHN 350.**Registration Information:** Offered as a correspondence or online course only.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 325 Equine Exercise Physiology Credits: 2 (2-0-0)****Course Description:** Overview of the main aspects of equine exercise physiology.**Prerequisite:** ANEQ 230 or BMS 300 or ANEQ 305.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** Yes.**ANEQ 328 Foundations in Animal Genetics Credits: 3 (3-0-0)****Course Description:** Foundational information of the influence of the genome and its genes on qualitative and quantitative traits in animal populations.**Prerequisite:** (ANEQ 101 or ANEQ 102) and (LIFE 102).**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.

ANEQ 330 Principles of Animal Breeding Credits: 3 (3-0-0)

Course Description: Genetic principles underlying animal improvement; elementary population genetics; heritability; selection response; mating systems; DNA markers.

Prerequisite: (BZ 350 or ANEQ 328 or SOCR 330) and (STAT 200 to 279 - at least 3 credits or STAT 300 to 379 - at least 3 credits).

Registration Information: Sections may be offered: Online.

Terms Offered: Fall, Spring.

Grade Modes: S/U within Student Option, Trad within Student Option.

Special Course Fee: No.

ANEQ 334 Principles of Equine Genetics Credits: 3 (3-0-0)

Course Description: Principles of selection and genetic improvement of horses, including economically relevant qualitative and quantitative traits.

Prerequisite: (ANEQ 102) and (ANEQ 328 or BZ 350 or SOCR 330) and (STAT 201 or STAT 301 or STAT 307).

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 340 Horse Training and Sale Preparation I Credits: 3 (0-6-0)

Course Description: Practical training skills using a yearling or two year old: in-hand, restraint, ground driving, lungeing, first rides, stable management.

Prerequisite: None.

Registration Information: Written consent of instructor.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 341 Horse Training and Sale Preparation II Credits: 3 (0-6-0)

Course Description: Skills in training for specific riding maneuvers, conditioning, and fitting for sale.

Prerequisite: ANEQ 340.

Registration Information: Additional time outside of class required on weekends.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 344 Principles of Equine Reproduction Credits: 4 (3-2-0)

Course Description: Principles of reproduction and reproductive management of the mare and stallion.

Prerequisite: (ANEQ 102) and (ANEQ 230 or BMS 300 or ANEQ 305).

Registration Information: Must register for lecture and laboratory.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 345 Principles of Nutrition: Equine Applications Credits: 3 (3-0-0)

Course Description: Principles of nutrition; application in feeding horses in different physiological states to promote health and wellness.

Prerequisite: (ANEQ 102) and (ANEQ 230 or BMS 300 or ANEQ 305) and (CHEM 100 to 199 - at least 3 credits and MATH 100 to 499 - at least 3 credits).

Registration Information: Sections may be offered: Online.

Terms Offered: Spring, Summer.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 346 Equine Disease Management Credits: 4 (3-2-0)

Course Description: Normal and abnormal body structures and functions of major systems of the horse. Recognition of main diseases, causes, prevention and treatments.

Prerequisite: ANEQ 230 or BMS 300 or ANEQ 305.

Registration Information: Must register for lecture and laboratory.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 348 Equine Training Techniques Credits: 2 (1-2-0)

Course Description: Training techniques in multiple riding disciplines.

Prerequisite: ANEQ 315.

Registration Information: Must register for lecture and laboratory.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 349 Packing and Outfitting Credits: 2 (1-2-0)

Course Description: Business aspects of outfitting/packing the horse; hitches, knots, horse care; planning pack trips, setting up camp.

Prerequisite: ANEQ 102.

Registration Information: Written consent of instructor. Must register for lecture and laboratory. Required field trips (Overnight pack trip).

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 351 Techniques in Therapeutic Riding Credits: 2 (1-2-0)

Course Description: Equine assisted activities; therapeutic horseback riding, hippotherapy, driving/vaulting, mental health treatments, programs for youth at risk.

Prerequisite: ANEQ 102.

Registration Information: Must register for lecture and laboratory.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 352 Introduction to Horse Evaluation Credits: 2 (0-4-0)

Course Description: Criteria and techniques for evaluation of horses; development of logical decision processes for establishing comparative value.

Prerequisite: ANEQ 102.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 353 Advanced Horse Evaluation Credits: 3 (0-6-0)

Course Description: Advanced criteria/techniques for horse evaluation; logical decision process development to establish comparative value; intercollegiate competition.

Prerequisite: ANEQ 352.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 354 Introduction to Livestock Evaluation Credits: 3 (0-6-0)

Course Description: Criteria and techniques for evaluation of livestock; development of logical decision processes for establishing comparative value.

Prerequisite: ANEQ 101.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 355 Advanced Livestock Evaluation Credit: 1 (0-9-0)

Course Description: Advanced criteria and techniques for evaluation of livestock; establishing comparative value; participating in intercollegiate competition.

Prerequisite: AN EQ 354.

Registration Information: Course may be taken twice for a maximum of 2 credits.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 356 Introduction to Dairy Evaluation Credits: 3 (0-6-0)

Course Description: Criteria and techniques for evaluation of dairy cattle; development of logical decision processes for establishing comparative value.

Prerequisite: None.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 357 Advanced Dairy Evaluation Credits: 2 (0-4-0)

Course Description: Advanced criteria and techniques for evaluation of dairy cattle; establishing comparative value; participating in intercollegiate competition.

Prerequisite: AN EQ 356.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 358 Equine Event and Sales Management Credits: 2 (2-0-0)

Course Description: Skills necessary to produce, organize, and promote equine related events.

Prerequisite: AN EQ 102.

Registration Information: Credit not allowed for both AN EQ 358 and AN EQ 300T.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 359 Equine Sales Production Credits: 2 (0-4-0)

Course Description: Emphasizes skills necessary to host and evaluate an equine sale.

Prerequisite: AN EQ 358.

Registration Information: Written consent of instructor.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 360 Principles of Meat Science Credits: 3 (3-0-0)

Course Description: Structure, composition, and biology of muscle and associated tissues; wholesomeness, nutritive value, and palatability of beef, pork, and lamb.

Prerequisite: CHEM 100 to 199 - at least 3 credits.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 361 Introduction to Meat Product Evaluation Credits: 3 (0-6-0)

Course Description: Criteria and techniques for evaluation of meat products; development of logical decision processes for establishing comparative value.

Prerequisite: None.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 362 Advanced Meat Product Evaluation Credit: 1 (0-4-0)

Course Description: Criteria and techniques for evaluation of meat products; establishing comparative value; participating in intercollegiate competition.

Prerequisite: AN EQ 361.

Registration Information: Course may be taken twice for a maximum of 2 credits.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 363 Introduction to Wool and Fiber Evaluation Credit: 1 (0-2-0)

Course Description: Criteria and techniques for evaluation of wool; development of logical decision processes for establishing comparative value.

Prerequisite: None.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 364 Advanced Wool and Fiber Evaluation Credit: 1 (0-2-0)

Course Description: Criteria and techniques for evaluation of wool; establishing comparative value; participating in intercollegiate competition.

Prerequisite: AN EQ 363.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 365 Principles of Teaching Therapeutic Riding Credits: 3 (2-2-0)

Course Description: Practical experiences and knowledge of the techniques to be a professional certified therapeutic riding instructor.

Prerequisite: AN EQ 351.

Registration Information: Written consent of instructor. Must register for lecture and laboratory. Required field trips.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

AN EQ 384 Supervised College Teaching Credits: Var[1-5] (0-0-0)

Course Description:

Prerequisite: None.

Registration Information: Written consent of instructor.

Terms Offered: Fall, Spring, Summer.

Grade Mode: S/U Sat/Unsat Only.

Special Course Fee: No.

AN EQ 386A Equine Practicum: Equine Training and Management Credits: 2 (1-2-0)

Course Description:

Prerequisite: AN EQ 102.

Registration Information: Must register for lecture and laboratory.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: No.

AN EQ 386B Equine Practicum: Equine Reproductive Management Credits: 2 (1-2-0)

Course Description:

Prerequisite: AN EQ 344.

Registration Information: Must register for lecture and laboratory.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Instructor Option.

Special Course Fee: Yes.

ANEQ 386C Equine Practicum: Equine Farrier Management Credit: 1 (0-2-0)**Course Description:****Prerequisite:** ANEQ 102.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Instructor Option.**Special Course Fee:** Yes.**ANEQ 420 Applied Nutrition--Computer Diet Formulation Credits: 3 (3-0-0)****Course Description:** Comparative diet formulation strategies for cattle (beef and dairy), equine, swine, and poultry. Utilizing advanced computer software to formulate diets, predict performance, and manage ingredient inventory.**Prerequisite:** ANEQ 320 or ANEQ 345.**Registration Information:** Junior standing.**Term Offered:** Fall.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 440 Equine Industry and Issues Credits: 3 (3-0-0)****Course Description:** For students planning a career in the horse industry; management of facilities, production systems, personnel, marketing, and biological systems.**Prerequisite:** ANEQ 344 and ANEQ 345 or ANEQ 334 and ANEQ 344 or ANEQ 345 and ANEQ 346 or ANEQ 334 and ANEQ 345 or ANEQ 334 and ANEQ 346 or ANEQ 344 and ANEQ 346.**Registration Information:** Any two of the following: ANEQ 334, ANEQ 344, ANEQ 345, ANEQ 346.**Terms Offered:** Fall, Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 441 Integrated Equine Science Credits: 2 (2-0-0)****Course Description:** Describe, understand and integrate the newest scientific principles in equine sciences with equine management.**Prerequisite:** ANEQ 334 and ANEQ 345 and ANEQ 344 or ANEQ 334 and ANEQ 344 and ANEQ 346 or ANEQ 346 and ANEQ 344 and ANEQ 345.**Registration Information:** Junior standing.**Terms Offered:** Spring, Summer.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 442 Riding Instructor Training Credits: 2 (0-4-0)****Course Description:** Teaching techniques; theory; handling of large mounted groups, beginner through advanced levels.**Prerequisite:** ANEQ 102.**Registration Information:** Written consent of instructor.**Terms Offered:** Fall, Spring.**Grade Mode:** Traditional.**Special Course Fee:** Yes.**ANEQ 443 Applied Equine Nutrition Credits: 2 (1-2-0)****Course Description:** Applying principles of nutrition to feeding horses in different physiological states in an effort to promote their health and well-being.**Prerequisite:** ANEQ 345.**Registration Information:** Required field trips.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 444 Equine Business Management Credits: 2 (2-0-0)****Course Description:** Real life" equine industry experience and the ins and outs of managing an equine facility/business.**Prerequisite:** ANEQ 440.**Registration Information:** Required field trips.**Terms Offered:** Fall, Summer.**Grade Mode:** Traditional.**Special Course Fee:** Yes.**ANEQ 445 Foaling Management Credits: 2 (1-3-0)****Course Description:** Management of the foaling mare and newborn foal; monitoring techniques, preventative and emergency care procedures.**Prerequisite:** ANEQ 344.**Registration Information:** ANEQ 344 or PVM sophomore standing. Must register for lecture and laboratory.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** Yes.**ANEQ 448 Livestock Manure Management and Environment Credits: 3 (2-2-0)****Course Description:** Manure management; maximizing benefits to soils and crops; minimizing air and water quality hazards; complying with regulations.**Prerequisite:** CHEM 100 to 199 - at least 3 credits.**Registration Information:** Credit allowed for only one of the following: ANEQ 448, ANEQ 548, SOCR 448, SOCR 548. Must register for lecture and laboratory. Required field trips.**Term Offered:** Fall (even years).**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 450 Processed Meats Credits: 3 (2-3-0)****Course Description:** Must register for lecture and laboratory.**Prerequisite:** ANEQ 360.**Term Offered:** Fall.

Prerequisite: ANEQ 360.

Grade Mode: Traditional.**Special Course Fee:** No.**ANEQ 460 Meat Safety Credits: 2 (2-0-0)****Course Description:** Meat safety; food borne pathogens; hazard analysis critical control points (HACCP) and total quality management (TQM) practices.**Prerequisite:** CHEM 100 to 199 - at least 3 credits.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** No.**ANEQ 470 Meat Processing Systems Credits: 4 (3-2-0)****Course Description:** Advanced understanding of the manufacturing, packaging, distribution, storage, and cooking of meat products.**Prerequisite:** ANEQ 360.**Restriction:** Must be a: Senior, Senior - Post Bachelor, Senior - Second Bachelor.**Registration Information:** Senior standing. Must register for lecture and lab.**Term Offered:** Spring.**Grade Mode:** Traditional.**Special Course Fee:** Yes.

ANEQ 472 Sheep Systems Credits: 3 (2-2-0)

Course Description: Sheep production under farm and ranch conditions; products, breeds, breeding, nutrition, reproduction, and management systems.

Prerequisite: None.

Restriction: Must be a: Senior, Senior - 5yr Bachelor, Senior - Post Bachelor, Senior - Second Bachelor.

Registration Information: Senior standing. Must register for lecture and laboratory.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 473 Dairy Systems Credits: 3 (2-3-0)

Course Description: Integration of nutrition, genetics, physiology, and economics for management decisions of dairy farm operations and production and marketing of milk.

Prerequisite: (ANEQ 230 or BMS 300 or ANEQ 305) and (ANEQ 310 and ANEQ 320).

Restriction: .

Registration Information: Senior standing. Must register for lecture and laboratory.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 474 Swine Systems Credits: 3 (2-2-0)

Course Description: Production of purebred and commercial swine; breeds, breeding, feeding, marketing, and management.

Prerequisite: None.

Restriction: Must be a: Senior, Senior - 5yr Bachelor, Senior - Post Bachelor, Senior - Second Bachelor.

Registration Information: Senior standing. Must register for lecture and laboratory.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 475 Travel Abroad-Animal Agriculture Credits: 2 (2-0-0)

Course Description: Onsite evaluation of international animal agriculture systems with emphasis on production, marketing, and management.

Prerequisite: None.

Registration Information: Written consent of instructor.

Terms Offered: Fall, Spring, Summer.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 476 Feedlot Systems Credits: 3 (3-0-0)

Course Description: Feedlot facilities; nutrition; procurement; merchandising; handling; processing cattle; health care; custom feeding; managerial duties.

Prerequisite: ANEQ 320.

Restriction: Must be a: Senior, Senior - 5yr Bachelor, Senior - Post Bachelor, Senior - Second Bachelor.

Registration Information: Senior standing.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 478 Beef Systems Credits: 3 (2-2-0)

Course Description: Beef production as related to consumer through seedstock segments. Major emphasis on cow-calf management.

Prerequisite: None.

Restriction: Must be a: Senior, Senior - 5yr Bachelor, Senior - Post Bachelor, Senior - Second Bachelor.

Registration Information: Senior standing. Must register for lecture and laboratory. Required field trips.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 486 Therapeutic Riding Instructor Practicum Credit: 1 (0-3-0)

Course Description: Mentor-guided teaching hours to students preparing for the PATH International Instructor examination.

Prerequisite: ANEQ 365.

Term Offered: Fall.

Grade Mode: S/U Sat/Unsat Only.

Special Course Fee: Yes.

ANEQ 487A Internship: Animal Credits: Var[1-6] (0-0-0)

Course Description:

Prerequisite: None.

Registration Information: Written consent of instructor. Maximum of 6 credits allowed in course.

Terms Offered: Fall, Spring, Summer.

Grade Mode: S/U Sat/Unsat Only.

Special Course Fee: No.

ANEQ 487B Internship: Equine Credits: Var[1-6] (0-0-0)

Course Description:

Prerequisite: None.

Registration Information: Written consent of instructor. Maximum of 6 credits allowed in course.

Terms Offered: Fall, Spring, Summer.

Grade Mode: S/U Sat/Unsat Only.

Special Course Fee: No.

ANEQ 495 Independent Study Credits: Var[1-18] (0-0-0)

Course Description:

Prerequisite: None.

Registration Information: Written consent of instructor. Maximum of 6 credits allowed in course.

Terms Offered: Fall, Spring, Summer.

Grade Mode: S/U Sat/Unsat Only.

Special Course Fee: No.

ANEQ 496 Group Study Credits: Var[1-5] (0-0-0)

Course Description:

Prerequisite: None.

Registration Information: Written consent of instructor. Maximum of 6 credits allowed in course.

Terms Offered: Fall, Spring, Summer.

Grade Modes: S/U Sat/Unsat Only, Traditional.

Special Course Fee: No.

ANEQ 500 Recent Developments Credits: Var[1-6] (0-0-0)

Course Description: Recent developments in animal science, avian science, and food technology.

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Registration Information: Graduate standing.

Term Offered: Summer.

Grade Modes: S/U within Student Option, Trad within Student Option.

Special Course Fee: No.

ANEQ 510 Bovine Reproduction Management Credits: 4 (3-2-0)

Course Description: Role of reproduction in economic efficiency of cattle production systems. Causes of delayed breeding and nonpregnancy, abortion and perinatal mortality.

Prerequisite: ANEQ 310.

Registration Information: Must register for lecture and laboratory.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 522 Animal Metabolism Credits: 3 (3-0-0)

Course Description: Nutrient digestion, absorption, transport and metabolism in monogastric and ruminant domestic species as affected by physiological changes.

Prerequisite: CHEM 346 or CHEM 245 and CHEM 246.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 531 Applied Bovine Respiratory Disease Management Credit: 1 (1-0-0)

Course Description: Economic significance, management and measurement of bovine respiratory disease; introduction to genetic influence on susceptibility.

Prerequisite: ANEQ 313 or ANEQ 346.

Registration Information: Written consent of instructor. Offered as an online course only. This is a partial semester course. Senior standing. Credit not allowed for both ANEQ 531 and ANEQ 580A1.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 532 Genetics of Bovine Respiratory Disease Credit: 1 (1-0-0)

Course Description: Quantitative and molecular perspectives on the genetics of susceptibility to bovine respiratory disease (BRD); genetic improvement in BRD susceptibility.

Prerequisite: ANEQ 330 and ANEQ 531.

Registration Information: Senior standing. Written consent of instructor. Offered as an online course only. This is a partial semester course. Credit not allowed for both ANEQ 532 and ANEQ 580A2.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 533 Marker and Gene Assisted Selection Credit: 1 (1-0-0)

Course Description: Approaches to including DNA marker and gene information into livestock selection decisions to improve accuracy and rate of genetic improvement.

Prerequisite: ANEQ 535 or ANEQ 575.

Registration Information: Graduate standing. Written consent of instructor. Offered as an online course only. This is a partial semester course. Credit not allowed for both ANEQ 533 and ANEQ 580A3.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 534 Markers to Gene Function - Functional Change Credit: 1 (1-0-0)

Course Description: Results of marker association analyses are expanded to how sequence polymorphisms translate into functional changes in the animal genome and variation in animal performance. Topics include an introduction to the tools used to generate multi-omics data and how these data are used in genetic evaluation and animal improvement programs.

Prerequisite: ANEQ 328.

Registration Information: Senior standing. Written consent of instructor. Offered as an online course only. This is a partial semester course. Credit not allowed for both ANEQ 534 and ANEQ 580A4.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 535 Genetic Prediction in Livestock Credit: 1 (1-0-0)

Course Description: Emphasizes approaches to genetic prediction in livestock focusing on the use of mixed models and best linear unbiased prediction.

Prerequisite: ANEQ 328.

Registration Information: Graduate standing. Written consent of instructor. Offered as an online course only. This is a partial semester course. Credit not allowed for both ANEQ 535 and ANEQ 581A1.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 536 Livestock Variance Component Estimation Credit: 1 (1-0-0)

Course Description: Emphasizes approaches to estimation of (co)variance components and genetic parameters required to solve mixed models in livestock genetics.

Prerequisite: ANEQ 535 or ANEQ 575.

Registration Information: Senior standing. Written consent of instructor. Offered as an online course only. This is a partial semester course. Credit not allowed for both ANEQ 536 or ANEQ 581A2.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 548 Issues in Manure Management Credits: 4 (2-2-1)

Course Description: Manure management practices maximizing benefits to soils and crops while minimizing hazards to air and water quality and complying with regulations.

Prerequisite: CHEM 100 to 199 - at least 3 credits.

Registration Information: Credit allowed for only one of the following courses: ANEQ 448, ANEQ 548, SOCR 448, SOCR 548. Must register for lecture, laboratory, and recitation. Required field trips.

Term Offered: Fall (even years).

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 550A Basic Research Surgery: Farm Animal Credits: 2 (1-2-0)

Course Description: Basic principles and techniques of animal surgery to meet ACUC requirements for experimental procedures.

Prerequisite: ANEQ 230 or ANEQ 305 or BMS 300 or BMS 305.

Registration Information: Junior, senior, or graduate standing. Must register for lecture and laboratory.

Term Offered: Fall.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 550B Basic Research Surgery: Rodent Credits: 2 (1-2-0)

Course Description: Basic principles and techniques of animal surgery to meet ACUC requirements for experimental procedures.

Prerequisite: ANEQ 230 or ANEQ 305 or BMS 300 or BMS 305 or VS 333.

Registration Information: Junior, senior, or graduate standing. Must register for lecture and laboratory.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 551 Field Necropsy Credits: 2 (1-2-0)

Course Description: Field necropsy techniques for collection of animal tissues for submission to a diagnostic laboratory.

Prerequisite: (ANEQ 230 or BMS 300 or ANEQ 305) and (VS 313 or ANEQ 346 or MIP 315 or ANEQ 313).

Restriction: Must be a: Graduate, Professional.

Registration Information: Junior or senior standing. Must register for lecture and laboratory.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 565 Interpreting Animal Science Research Credits: 3 (3-0-0)

Course Description: Designing, conducting, analyzing, and reporting of animal science research.

Prerequisite: (ANEQ 101 or ANEQ 102) and (STAT 100 to 499 - at least 3 credits).

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 567 HACCP Meat Safety Credits: 2 (2-0-0)

Course Description: Control of health problems in meat products through hazard analysis critical control point (HACCP) and total quality management (TQM) practices.

Prerequisite: ANEQ 460.

Registration Information: This is a partial-semester course.

Term Offered: Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 575 Computational Biology in Animal Breeding Credits: 3 (2-2-0)

Course Description: Numerical analysis and use of computers to solve problems in animal improvement.

Prerequisite: None.

Restriction: Must be a: Graduate.

Registration Information: Graduate standing or written consent of instructor. Must register for lecture and laboratory.

Term Offered: Fall (odd years).

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 587 Internship Credits: Var[1-9] (0-0-0)

Course Description:

Prerequisite: None.

Registration Information: Written consent of instructor.

Terms Offered: Fall, Spring, Summer.

Grade Mode: S/U Sat/Unsat Only.

Special Course Fee: No.

ANEQ 610 Hormonal Regulation of Growth Credits: 2 (2-0-0)

Course Description: Cellular and molecular regulation of animal growth by hormones and growth factors.

Prerequisite: BMS 501.

Restriction: Must be a: Graduate, Professional.

Term Offered: Spring (odd years).

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 621 Vitamin and Mineral Metabolism Credits: 3 (3-0-0)

Course Description: Vitamin and mineral metabolism in domestic animals.

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Registration Information: Graduate standing.

Term Offered: Spring (even years).

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 626 Animal Nutrition, Emissions, and Management Credits: 4 (3-3-0)

Course Description: Nutrients and nutrient function required to support animal life through all physiological states and assessment of the impacts on gaseous emissions from these animals.

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Registration Information: Must register for lecture and laboratory. Required field trips.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: Yes.

ANEQ 631 Selection Index Theory Credits: 3 (2-0-1)

Course Description: Quantitative methods for genetic evaluation: selection index theory and introduction to best linear unbiased prediction.

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Registration Information: Graduate standing. Must register for lecture and recitation.

Term Offered: Spring (even years).

Grade Modes: S/U within Student Option, Trad within Student Option.

Special Course Fee: No.

ANEQ 660 Topics in Meat Safety Credit: 1 (1-0-0)

Course Description: Topics of current concern in meat safety.

Prerequisite: ANEQ 567.

Restriction: Must be a: Graduate, Professional.

Terms Offered: Fall, Spring.

Grade Mode: Traditional.

Special Course Fee: No.

ANEQ 676 Molecular Approaches to Food Safety Credits: 3 (1-4-0)

Course Description: Molecular subtyping, tracking, and control; molecular ecology and evolution of food-borne pathogens; molecular pathogenesis of food-borne diseases.

Prerequisite: MIP 300 or MIP 334.

Restriction: Must be a: Graduate, Graduate cooperative program, Professional.

Registration Information: Must register for lecture and laboratory.

Term Offered: Fall (odd years).

Grade Mode: Traditional.

Special Course Fee: No.

AN EQ 699 Thesis Credits: Var[1-18] (0-0-0)**Course Description:****Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Written consent of instructor.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** S/U Sat/Unsat Only.**Special Course Fee:** No.**AN EQ 720 Nutritional Energetics Credits: 3 (3-0-0)****Course Description:** Dietary energy use to meet animal requirements for maintenance, growth, pregnancy, and lactation; environmental, nutritional, and physiological effects.**Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Term Offered:** Spring (odd years).**Grade Mode:** Traditional.**Special Course Fee:** No.**AN EQ 725 Rumen Metabolism Credits: 3 (3-0-0)****Course Description:** Microbial degradation, transformation, and synthesis of ingested nutrients; feed particle passage kinetics in the rumen.**Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Term Offered:** Fall (odd years).**Grade Mode:** Traditional.**Special Course Fee:** No.**AN EQ 730 Advances in Cattle Breeding Credits: 3 (3-0-0)****Course Description:** Literature and research methods in beef cattle breeding.**Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Term Offered:** Spring (odd years).**Grade Modes:** S/U within Student Option, Trad within Student Option.**Special Course Fee:** No.**AN EQ 731 Advanced Genetic Prediction Credits: 3 (3-0-0)****Course Description:** Models and methods for prediction of genetic merit in livestock populations.**Prerequisite:** AN EQ 575.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Term Offered:** Spring (odd years).**Grade Mode:** Traditional.**Special Course Fee:** No.**AN EQ 784 Supervised College Teaching Credits: Var[1-18] (0-0-0)****Course Description:****Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing. Written consent of instructor.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** S/U Sat/Unsat Only.**Special Course Fee:** No.**AN EQ 792A Seminar: General Credit: 1 (0-0-1)****Course Description:****Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Instructor Option.**Special Course Fee:** No.**AN EQ 792B Seminar: Breeding/Genetics Credit: 1 (0-0-1)****Course Description:****Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Instructor Option.**Special Course Fee:** No.**AN EQ 792C Seminar: Physiology Credit: 1 (0-0-1)****Course Description:****Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Instructor Option.**Special Course Fee:** No.**AN EQ 792D Seminar: Meat Sciences Credit: 1 (0-0-1)****Course Description:****Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Instructor Option.**Special Course Fee:** No.**AN EQ 792E Seminar: Nutrition Credit: 1 (0-0-1)****Course Description:****Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Instructor Option.**Special Course Fee:** No.**AN EQ 792F Seminar: Livestock Management Systems Credit: 1 (0-0-1)****Course Description:****Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** Instructor Option.**Special Course Fee:** No.**AN EQ 795 Independent Study Credits: Var[1-18] (0-0-0)****Course Description:****Prerequisite:** None.**Restriction:** Must be a: Graduate, Professional.**Registration Information:** Graduate standing. Written consent of instructor.**Terms Offered:** Fall, Spring, Summer.**Grade Mode:** S/U Sat/Unsat Only.**Special Course Fee:** No.

ANEQ 799 Dissertation Credits: Var[1-18] (0-0-0)

Course Description:

Prerequisite: None.

Restriction: Must be a: Graduate, Professional.

Registration Information: Graduate standing. Written consent of instructor.

Terms Offered: Fall, Spring, Summer.

Grade Mode: S/U Sat/Unsat Only.

Special Course Fee: No.