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**Agribusiness Science & Technology - Animal Science Program**

**Course Curriculum**

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| **Semester 01**   (Tuition: $2,460  Books: $460-$790) |
| **Course #** | **Course Title** | **Credits** |
| 10-006-116 | Introduction to Soils | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36Course is designed to provide the student with fundamental knowledge of soil and soil composition. Students will study soil types, formation factors, physical properties, biological properties and basic soil chemistry. Units covering tillage, conservation, pH and soil management will also be included. Students will gain the skills required to interpret soil survey maps and recognize qualities of various soil types. The student will perform soil sampling, residue measurements, compaction assessments and soil loss determinations per crop rotation guidelines. |
| 10-006-121 | Agribusiness Computer Applications | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36Students will develop skills in the use of agricultural applications of computer technologies including: Farmworks; creating and using spreadsheets in Excel; creating and using documents in Word; creating documents in Power Point; using email; using farm financial record keeping programs; using an IPAD and apps; and appropriate social media etiquette. |
| 10-006-169 | Career Development in Agriculture | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36Student will develop individual leadership and employment qualities, in addition to exploring the agricultural industry and available careers. Subjects to be covered include; personal evaluation, goal setting, career opportunities, career exploration, current issues in agriculture, employment preparation, and interviewing skills. Also included are units covering workplace regulations, employment seeking, and motivational styles and techniques. |
| 10-006-180 | Animal Science | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36This course provides fundamental knowledge of the animal science field. Topics include animal health, animal environments, anatomy and physiology, genetics and reproduction, animal feedstuffs, and job related safety. Participants will experience animal concepts through the completion of hands-on activities. |
| 10-801-195 | Written Communication *\* OR \** |  |
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| Credits: 3 Lecture Hours: 54Students develop writing skills through prewriting, drafting, revising, and editing. Students complete writing assignments designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Students develop critical reading and thinking skills through the analysis of a variety of written documents. |
| 10-801-136 | English Composition 1 | 3 |
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| Credits: 3 Lecture Hours: 54This course is designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing and revising are applied through a variety of activities. Students will analyze audience and purpose, use elements of research and format documents using standard guidelines. Individuals will develop critical reading skills through analysis of various written documents. |
| 10-804-107 | College Mathematics | 3 |
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| Credits: 3 Lecture Hours: 54This course is designed to review and develop fundamental concepts of mathematics in the areas of algebra, geometry, trigonometry, measurement and data. Algebra topics emphasize simplifying algebraic expressions, solving linear equations and inequalities with one variable, solving proportions and percent applications. Geometry and trigonometry topics include; finding areas and volumes of geometric figures, applying similar and congruent triangles, applying Pythagorean Theorem, and solving right triangles using trigonometric ratios. Measurement topics emphasize the application of measurement concepts and conversion techniques within and between U.S. customary and metric system to solve problems. Data topics emphasize data organization and summarization skills, including: frequency distributions, central tendency, relative position and measures of dispersion. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. |
|  |  | **16** |
| **Semester 02**   (Tuition: $2,500  Books: $190-$240) |
| **Course #** | **Course Title** | **Credits** |
| 10-006-104 | Animal Nutrition | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36The student will demonstrate how to formulate and balance rations for all forms of livestock. In addition, they will also be able to know the nutritional needs of various species and identify different feedstuffs. Students will be familiar with the laws and regulations on livestock feeding along with reading, interpreting, and making recommendations from feed test reports and tags. They will also be able to successfully understand the digestive systems of monogastric and ruminant animals. |
| 10-006-123 | Artificial Insemination Training | 1 |
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| Credits: 1 Lecture Hours: 18This course is designed for the student wishing to learn artificial insemination of cattle as a career choice or to be used for personal farm purposes. Co-requisite: Farm Animal Reproduction (10-006-150) |
| 10-006-142 | Introduction to Animal Health | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36This class is designed to introduce the student to the study of farm animal health. During this course students will study animal anatomy, basic immune system function and common diseases (causes, treatments and prevention). They will become familiar with genetic abnormalities and animal behavior. Finally, the student should gain a grasp of the uses of antibiotics, vaccines and hormones. |
| 10-006-150 | Farm Animal Reproduction | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36The student will learn the physiology and anatomy of the male and female reproductive tract of livestock. Also, covered in this course are hormones that effect the reproductive tract and the estrus cycle of the female. The student will become familiar with the reproductive disease of males and females. Finally an introduction to the common reproductive protocols and technology used within the industry. |
| 10-006-151 | Animal Selection & Improvement - Dairy *\* OR \** |  |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36The student will gain fundamentals in genetics of livestock selection in this course. A historical perspective will be studied through Mendelian theory, followed by the study of current bull proving process. Mastery of the terminology and theory will be used for application of sire selection and dairy cattle evaluation. Genomics will also be used to apply current theories to dairy cattle selection. |
| 10-006-152 | Animal Selection & Improvement - Livestock | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36The student will become familiar with terminology, genetics, and selection of livestock that promotes high impact productive cattle and hogs. Basic study of genetics and genomics will be used to make selection and mating decisions that will improve performance of livestock. A variety of classroom activities and field trips will be used to achieve the objectives of this class. |
| 10-070-104 | Ag Safety, Electrical & Maintenance | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36Students will learn skills necessary to help them make general repairs and identify proactive maintenance steps of all types of equipment throughout a farmstead. Safety while performing daily tasks will be included in every unit. Emphasis areas include selecting personal protective equipment, working around cattle, crop storage, farm chemicals and fluids storage, safety awareness of electrical systems both on equipment and around the farmstead, selecting proper tools to perform maintenance procedures, and ATV safety. Students will gain an understanding of viewing the farmstead with a safety focus to recognize farm hazards and being aware of corrective measures that are needed to make the farmstead safe for all personnel on the farm. |
| 10-801-196 | Oral/Interpersonal Communication | 3 |
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| Credits: 3 Lecture Hours: 54Students demonstrate competency in speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities and other projects. |
|  |  | **16** |
| **Semester 03**   (Tuition: $440) |
| **Course #** | **Course Title** | **Credits** |
| 10-006-197 | Agribusiness Internship | 3 |
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| Credits: 3 Lecture Hours: 0 Occupational Hours: 216The student will have the opportunity to apply course work to a practical, on-the-job situation. Goals and task lists are followed. Prerequisites: Legal Aspects of Agribusiness (10-006-114) or Farm Animal Reproduction (10-006-150) or Pest ID & Management/Crop Scouting (10-006-126) |
|  |  | **3** |
| **Semester 04**   (Tuition: $2,780  Books: $500-$850) |
| **Course #** | **Course Title** | **Credits** |
| 10-006-131 | Forage Crop Production Management | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36Course will provide the student knowledge necessary to plan, produce, protect, harvest, and store forage crops commonly produced in Wisconsin. Specific attention will be given to variety selection, seed bed preparation, fertilization, planting, weed control, insect control, disease control, harvesting, and storing of crops. Late season field scouting will be covered. Harvest losses, yield determination, and Integrated Pest Mgt. will also be included. Forage sample collection and quality grading standards will be covered. Field trips will be used to effectively reinforce the material presented in class. Students will demonstrate the ability to perform a crop profitability comparison. |
| 10-006-144 | Livestock Housing & Equipment | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36The student will have the opportunity to learn principles of designing correct facilities based on the environment, feeding system, waste removal systems, and factors which influence animal health. Students will compare and contrast various facilities as well as study building materials, design, layout and construction cost estimates. Additionally, students will identify requirements of a concentrated animal feeding operation permit. Students will complete a final project of designing the housing facilities for a livestock species of their choice. |
| 10-006-146 | Milk Production *\* OR \** |  |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36Students study the value of milk in human nutrition, milk and health issues, the role of dairy cattle in the production of animal protein, physiology of lactation, milk composition, the effect of various feeds, milk testing, production records, recommended milking procedures in association with proper sanitation and prepping the cow, care and maintenance of equipment, mastitis and its relationship to profitability, use of laboratory culturing and sensitivity testing, study of computerized production records and their uses, as well as laws regulating milk production. Field trips will be utilized to view firsthand the topics studied in class. |
| 10-006-147 | Meat Quality | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36The students will study the importance of meat industry from the farm to the consumer. Students will be engaged in broad educational opportunities within the meat science industry for preparation in the world of work. Topics will range for live animal evaluation, transportation, safety aspects including regulations, inspection and laws surrounding handling animals, evisceration, wholesale and retail cuts, temperature and use of by products from the animal. |
| 10-006-158 | Ration Balancing & Formulation | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36Students study the recommended practices, care and feeding of the dairy, beef, sheep, goats and swine through computer balancing of rations. Also included is a review of the macronutrients and the study of micronutrients, metabolic disorders, their symptoms, causes, prevention, and treatments. Field trips will be utilized to emphasize recommended feeding practices with various feeding systems. |
| 10-006-163 | Agribusiness Management | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36This course will offer the student the opportunity to become familiar with the current trends and practices used in the management of Agricultural businesses. Topics of study will include an overview of the food and fiber system, business organizations, role of management, marketing, forecasting, long range planning, personnel management and strategies of business competitiveness. Student will develop skills in assessing business performance. |
| 10-804-189 | Introductory Statistics *\* OR \** |  |
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| Credits: 3 Lecture Hours: 54Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships including ANOVA. |
| 10-804-123 | Math with Business Applications | 3 |
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| Credits: 3 Lecture Hours: 54Students use real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, and apply math concepts to the purchasing/buying process, the selling process, and apply basic statistics to business/consumer applications. |
| 10-809-199 | Psychology of Human Relations *\* OR \** |  |
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| Credits: 3 Lecture Hours: 54Students explore the relationship between the general principles of psychology and our everyday lives. Students are given the opportunity to achieve a deepened sense of awareness of themselves and others. This understanding enables students to improve their relationship with others at work, in the family, and in society. |
| 10-809-172 | Introduction to Diversity Studies | 3 |
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| Credits: 3 Lecture Hours: 54Students draw from several disciplines to reaffirm the basic American values of justice and equality by learning a basic vocabulary, a history of immigration and conquest, principles of transcultural communication, legal liability and the value of aesthetic production to increase the probability of respectful encounters among people. In addition to an analysis of majority/minority relations in a multicultural context, the topics of ageism, sexism, gender differences, sexual orientation, the disabled and the American Disability Act (ADA) are explored. Ethnic relations are studied in global and comparative perspectives. |
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| **Semester 05**   (Tuition: $2,330  Books: $90-$310) |
| **Course #** | **Course Title** | **Credits** |
| 10-006-114 | Legal Aspects of Agribusiness | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36Course provides the student with information pertinent to the regulation and legal liability of an agribusiness. Course content includes several topics relevant to anyone employed in the industry of agriculture. Specific units include; legal descriptions and applications, agricultural legislation, government sponsored programs offered through the USDA and WDATCP, contractual agreements, insurance, debt collection, bankruptcy, transportation, and employment liability. Upon successful completion of this course, the student will demonstrate knowledge of and ability to access laws pertaining to and regulating the industry of agriculture. |
| 10-006-133 | Agribusiness Financial Management *\* OR \** |  |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36This course will cover financial documents and practices as they relate to agribusinesses. Students will learn how agribusinesses use financial statements to analyze the financial health of a business. This course will give students a basic understanding of how to manage working capital and obtain financing. Management of activities that determine financial health of a business will be explored. |
| 10-006-136 | Agricultural Commodity Marketing | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36Operation and use of agricultural commodity markets and institutions as applied to enterprise and firm risk management. Cash markets; futures markets and futures option markets; basis; hedging and forward pricing; price discovery; fundamental analysis; technical analysis and risk management strategies. Activities of commodity futures exchanges; the mechanics of trading futures contracts; the use of futures trading for hedging and forward pricing; and options, basis behavior, and hedging strategies for selected commodities. |
| 10-006-135 | Agribusiness Sales and Services | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36Course will offer the student knowledge necessary in a career of sales and customer service. Units of study will include customer behavioral traits, lead development, sales openings, product knowledge, transactional analysis, sales closings, and customer service. Students will document knowledge and skill development through preparation of individual career progress project. The student will be required to create videotaped sales presentations for examination in class. |
| 10-006-153 | Dairy Production Management *\* OR \** |  |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36The student will study a variety of topics relevant to the dairy industry for the present and future planning of the industry. An overview of all aspects of the dairy industry ranging from health, nutrition, production, management practices, technology, reproductive, economics, food safety, contracts and employability opportunities. The continued important topic and animal welfare will be addressed. The course will be thoughtful engaging for those learners who have a strong desire for employment and those who have interests in farming. |
| 10-006-157 | Livestock Production Management | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36The student will study a variety of topics relevant to the livestock (beef, swine, and small ruminants) industry for the present and future planning of the industry. An overview of all aspects of the livestock industry ranging from health, nutrition, production, management practices, technology, reproductive, economics, food safety, contracts and employability opportunities. The continued important topic and animal welfare will be addressed. The course will be thoughtful engaging for those learners who have a strong desire for employment and those who have interests in farming. |
| 10-809-195 | Economics | 3 |
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| Credits: 3 Lecture Hours: 54Students will develop analytical skills central to how a market-oriented system operates and the factors that influence national economic policy. Students will apply basic concepts and analyses to a variety of contemporary problems and public policy issues. These concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. |
|  |  | **15** |
| **Total Credits: 68** |
| **Estimated Total Tuition: $10,510** |