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**Agribusiness Science & Technology - Agronomy Program**

**Course Curriculum**

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| **Semester 01**   (Tuition: $2,930  Books: $520-$870) | | |
| **Course #** | **Course Title** | **Credits** |
| 10-006-116 | Introduction to Soils | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36 Course 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: 36 Students 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. | | |
| 10-006-160 | Plant Science | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36 Provides fundamental knowledge of plant components and their functions. Topics include pollinating and propagating plants, germinating seeds, plant nutrients, and factors affecting photosynthesis, respiration, and transpiration. Participants will experience plant components and their functions through the completion of hands-on activities. | | |
| 10-006-169 | Career Development in Agriculture | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36 Student 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: 36 This 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: 54 Students 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: 54 This 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: 54 This 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. | | |
|  |  | **19** |
| **Semester 02**   (Tuition: $2,820  Books: $210-$260) | | |
| **Course #** | **Course Title** | **Credits** |
| 10-006-113 | Precision Ag Technologies | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36 Student will study fundamental processes of the Global Positioning System (GPS) with emphasis on its application to agricultural production. Technical aspects of the GPS satellites, differential correction, and hardware will be covered. The specific applications of the technology in agriculture for navigation, mapping, soil management, variable rate technology (VRT), and yield monitoring will be discussed and demonstrated by the student. Student will gain exposure to technology cost, and potential economic benefit of technology application. Student will also be introduced to the operation of Geographic Information Systems (GIS). | | |
| 10-006-124 | Pesticide Applicator Training | 1 |
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| Credits: 1 Lecture Hours: 18 The learner will develop a strong understanding and basis of pest application training techniques, methods and standards used in the industry today. This class prepares students to take the Commercial Pesticide Applicator Certificating and Licensing exam category 1.1 Field and Vegetable Crops for the state of Wisconsin. | | |
| 10-006-125 | Crop Protection Products | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36 Course provides information related to current products and practices used in protection of crops. Protection of crops both during the growing season and while in storage following harvest will be covered. | | |
| 10-006-126 | Pest ID & Mgt/Crop Scouting | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36 The student will learn and develop skills, practices, and principles of identifying and managing pests that are a problem for a variety of common regionally grown agricultural crops. The student will learn control measures and application; proper use and safety measures; how to identify insects, weeds, and diseases in crops; various stages of growth related to timeliness of treatment; and methods of applying control measures. The student will learn principles to follow regarding the different ways of crop scouting. | | |
| 10-006-127 | Soil Fertility and Fertilizers | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36 Course will cover the fundamental and applied principles and concepts of soil fertility and plant nutrition. Attention will be given to the nutrient requirements of the commonly produced agronomic crops of our area. Course will provide the student with the information necessary to plan and produce agronomic crops based on crop needs and available resources. Students will be able to interpret soil test reports and make recommendation based on given information for related crop plants. In-field activities will be used to effectively reinforce the material presented in class. | | |
| 10-070-101 | Field Application Equipment | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36 Students learn to operate, recondition and maintain field application equipment such as manure spreaders, fertilizer spreaders and field sprayers used on modern farms and cooperatives. Students learn calibration procedures for liquid and dry fertilizer applicators. They will learn common terminology used when working with control monitors and associated equipment. | | |
| 10-070-104 | Ag Safety, Electrical & Maintenance | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36 Students 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: 54 Students demonstrate competency in speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities and other projects. | | |
|  |  | **18** |
| **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: 216 The 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: $2,300  Books: $360-$660) | | |
| **Course #** | **Course Title** | **Credits** |
| 10-006-130 | Row Crop Production Management | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36 Course will provide the student knowledge necessary to plan, produce, protect, harvest, and store commodity row 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, drying, and storing of crops. Late season field scouting will be covered. Harvest losses, yield determination, and Integrated Pest Mgt. will also be included. Commodity grading, sample collection, and the calibration of yield monitors 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. | | |
| 10-006-131 | Forage Crop Production Management | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36 Course 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. | | |
| 10-006-132 | Spatial Data Collection in Agriculture | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36 Course will provide the student with skills related to the collection and processing of various types of spatial data in agriculture. Provides detailed instruction and hands-on use of GPS receivers and data loggers to collect field data. Units of study will include an appreciation for the value of data in decision making, operating a GIS (Geographic Information System) software, soil data, yield data, remote imagery and the equipment used to collect data. Students will generate geo-referenced maps using spatial data collected. Prerequisite: Precision Ag Technologies (10-006-113) | | |
| 10-006-163 | Agribusiness Management | 3 |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36 This 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: 54 Students 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: 54 Students 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: 54 Students 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: 54 Students 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. | | |
|  |  | **15** |
| **Semester 05**   (Tuition: $2,170  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: 36 Course 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. | | |
| 10-006-128 | Nutrient Management Planning | 2 |
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| Credits: 2 Lecture Hours: 18 Lab Hours: 36 Course will cover advanced application of nutrient management principles. Special attention will be given to nutrient credits and the management of applied nutrients in consideration of the environment. Meeting requirements of the 590 standard will be followed. | | |
| 10-006-133 | Agribusiness Financial Management *\* OR \** |  |
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| Credits: 3 Lecture Hours: 36 Lab Hours: 36 This 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: 36 Operation 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: 36 Course 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. | | |
| 10-809-195 | Economics | 3 |
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| Credits: 3 Lecture Hours: 54 Students 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. | | |
|  |  | **14** |
| **Total Credits: 69** | | |
| **Estimated Total Tuition: $10,660** | | |