Southwest Wisconsin TECHNICAL COLLEGE

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Agribusiness Science & Technology - Agronomy Program

Course Curriculum

Semester 01 (Tuition: $2,470)

Course #	Course Title	Credits
10-006-116	Introduction to Soils	3

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.

10-006-159	Agribusiness Computer Applications	1

Credits: 1 Lecture Hours: 18
Students will construct, manipulate, and select spreadsheets and documents for various situations in the agriculture industry and on a farm. Data gathering agriculture software will be introduced to demonstrate its use in making management decisions. The use of email features used in business will be explored. Pre/Co-requisites: Beginning Microsoft Excel (10-103-106)

10-006-160	Plant Science	3

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.

10-006-161	Career Development in Agriculture	1

Credits: 1 Lecture Hours: 18
Student will develop individual leadership and employment qualities, in addition to exploring the agricultural industry and available careers.

10-103-106	Beginning Microsoft Excel	1

Credits: 1 Lecture Hours: 18
This course is an introduction to Microsoft Excel. Students will learn the basic features to produce basic worksheets and charts. Other topic areas covered include formatting, formulas, built-in functions used to design functional worksheets to solve business problems. Basic experience with Windows is assumed.

10-801-136	English Composition 1	3

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.

10-804-123 Math with Business Applications 3

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.

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Semester 02 (Tuition: $3,040)

Course #	Course Title	Credits
10-006-113	Precision Ag Technologies	3

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

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

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

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

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

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

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

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.

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Semester 03 (Tuition: $490)

Course #	Course Title	Credits
10-006-197	Agribusiness Experiential Learning	3

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, competencies and core abilities are followed. Prerequisites: Legal Aspects of Agribusiness (10-006-114), Pest ID & Mgt/Crop Scouting (10-006-126), Agribusiness Financial Management (10-006-133), Farm Animal Reproduction (10-006-150), or Introduction to Animal Health (10-080-118)

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Semester 04 (Tuition: $2,620)

Course #	Course Title	Credits
10-006-132	Spatial Data Collection in Agriculture	2

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. Prerequisites: Precision Ag Technologies (10-006-113)

10-006-162 Agribusiness Operations 3

Credits: 3 Lecture Hours: 54
Students will develop skills in understanding the agribusiness industry and the operational responsibilities of a business. Studies will include the role of management, forecasting, budgeting and the marketing approach to customer satisfaction. Students will develop a business plan for an agricultural related business.

10-093-102 Grain Production & Management 3

Credits: 3 Lecture Hours: 36 Lab Hours: 36
Course will provide students with knowledge necessary to plan, produce, protect, harvest, and store commodity crops commonly produced in Wisconsin. Students will gain a basic understanding of how livestock production utilizes these commodities. The course will also introduce technology related to the advanced production of commodity crops. Students will gain experience with grain production and management through hands-on labs, field trips, and through real world in-the-field scenarios.

10-093-103 Forage Production & Management 3

Credits: 3 Lecture Hours: 36 Lab Hours: 36
Course will provide students with knowledge necessary to plan, produce, protect, harvest, and store forage crops commonly produced in Wisconsin for livestock production. Students will gain a basic understanding of how livestock production utilizes these forages. The course will also introduce technology related to the advanced production and management forage crops. Students will gain experience with forage production and management through hands-on labs, field trips, and through real world in-the-field scenarios.

10-093-104 Applications of GIS in Agriculture 2

Credits: 2 Lecture Hours: 18 Lab Hours: 36
Course will offer students the ability to build skills relating to Agronomic Geographic Information System (GIS) and on farm applications. Students will be able to advance their digital farming skills by learning how to adapt to different seasonal variables, monitor the health of individual crops, estimate yields from a given field, and maximize crop production. The course will have the opportunity for students to gain experience with new technology related to soil management, ag equipment, and unmanned aerial systems. Students will gain further experience through hands-on labs, field trips, and through real world in-the-field scenarios.

10-809-199 Psychology of Human Relations 3

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.

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Semester 05 (Tuition: $1,960)

Course #	Course Title	Credits
10-006-117	Agribusiness Performance Standards	3

Credits: 3 Lecture Hours: 54 Lab Hours: 36
Course will provide students with ability to recognize and evaluate performance standards used in the agribusiness industry. Topics will include DOT regulations, legal descriptions, commodity marketing, contracts, financial statements and scorecards. Production standards will also be covered using industry benchmarks.

10-093-105 Nutrient Management & Precision Planning 3

Credits: 3 Lecture Hours: 36 Lab Hours: 36
Course will provide students with knowledge necessary to plan, apply, and manage plant nutrients while building an understanding of the regenerative principals of nutrient management. Students will gain a basic understanding of how Wisconsin’s 590 standard is built and implemented for on-farm practices. The course will

also introduce technology that aids in the guidance and implementation of nutrient application, management, and precision planning. Students will gain experience through hands-on labs, field trips, and through real world in-the-field scenarios. Prerequisites: Introduction to Soils (10-006-116)

10-104-105 Selling Principles 3

Credits: 3 Lecture Hours: 54
Philosophy of personal selling is introduced through learning to understand the societal role of salespersons and the human behaviors of customers, as well as how to sell ideas, services, and products. Students prepare sales presentations and practice selling techniques.

10-809-172 Introduction to Diversity Studies 3

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.

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Total Credits: 64

Estimated Total Tuition*: $10,580