

## Agriculture Business Management

Revised April 2009		Levels: I - introduced; P - practiced; M - mastered			
Unit	SKILLS	LEVEL	Teaching Notes	STATE GOALS	Workplace Competencies
<b>I. Introduction to Agribusiness</b>		IPM			A-G
	1. Understand principles of business management			15A5a	1-14
	2. Using Sole proprietorships				For All Units
	3. Using partnerships				
	4. Using corporations and cooperatives				
	5. Using franchises				
	6. Identifying and understanding various agribusiness companies			15A5c	
	7. Developing personal financial management				
	8. Developing banking skills				
	9. Developing savings and investment skills				
	10. Developing personal credit skills				
<b>II. Agricultural Literacy</b>		IPM			
	1. Using government agencies in agriculture				
	2. Using private organizations in agriculture				
	3. Using the Internet and World Wide Web				
<b>III. Agribusiness Principles and skills</b>		IPM			
	1. Understanding basic economic principles			15B5a	
	2. Understanding depreciation, fixed, and variable costs			6B4a	
	3. Understanding the value of time and money			6D4a	
	4. Identifying and using macroeconomics and microeconomics			15C5d	
<b>IV. Starting and Operating the Agribusiness</b>		IPM			
	1. Understanding personal finances and goals			15B4a	
	2. Understanding the concept of borrowing money				
	3. Determining sources of credit				
	4. Calculating interest rates			6D5a	
<b>V. Keeping and using records in an agribusiness</b>		IPM			
	1. Understanding recordkeeping			6B4a	
	2. Understanding net worth, cash flow, income statements, and computerized recordkeeping				
	3. Understanding budgets and financial analysis ratios			6D4a	
	4. Using financial statements in business decisions			6D5a	
<b>VI. Operating the agribusiness</b>		IPM			
	1. Hiring and managing employees			4B5d	
	2. Providing benefits and professional incentives for employees			5B5a	
	3. Relating and dealing with customers			18B5a	

	4. Insuring the agribusiness			10C5c
	5. Completing various agribusiness forms			5B5a
	6. Inventorying products and supplies			6D5a
	7. Packaging and labeling products			15B5a
	8. Pricing agricultural products and services			15C5a
<b>VII. Understanding agricultural law applications</b>		IPM		
	1. Exploring agricultural law			14A5a
	2. Understanding contracts			4B5d
	3. Exploring employment Legislation			22C5a
	4. Understanding Leases and Leasing			15C5b
	5. Understanding ownership rights and responsibilities			14A5a
	6. Exploring estate planning			14A5a
	7. Choosing an attorney			5A5b
<b>VIII. Understanding Agribusiness Taxes</b>		IPM		
	1. Understanding federal and state income taxes			14D5a
	2. Understanding property taxes			15B5a
	3. Understanding sales tax			15B5a
<b>IX. Gaining Employment</b>		IPM		
	1. Obtaining education for a job			5A4b
	2. Writing a resume and letter of application			3C4a
	3. Succeeding in a job interview			4A4d
<b>X. Marketing Agriculture Products</b>				
	1. Selecting a commodity marketing approach	IPM		15A5a
	2. Developing a marketing plan			5B5a
	3. Advertising products and services			5C5a
	4. Displaying Products and services			
	5. Selling agricultural products and services			4B5b
	6. Understanding the consumer and buying trends			15A5b
<b>XI. Trading Agricultural Commodities</b>		IPM		
	1. Understanding the various trade centers and exchanges			15D5b
	2. Understanding the mechanics of trading			15C5a
	3. Understanding the cash and futures market			12A4b, 15C5a
	4. Understanding options			15C5a
	5. Understanding hedging			15C5a
	6. Applying trading techniques			15D5c

## Ag Mechanics

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Unit	SKILLS	LEVEL	Teaching Notes	STATE GOALS	Workplace Competencies
<b>I. Surveying</b>					
	1. Understand Land Measurement and Legal Description	IPM		9A5a	A, C, D
	2. Understand surveying history and purpose	IPM		7C5a	
	3. Measuring horizontal distances	IPM	Taping Exercises		4, 6-14
	4. Calculating Acreage	IPM	Practice Problems		
	5. Conduct differential leveling surveys	IPM	Leveling Exercises	7B5a	
	5. Conduct profile leveling surveys	IPM			
<b>II. Electricity</b>					
	1. Introduction to electricity and electrical safety	IPM			A, C, D
	2. Exploring the science of electricity	IPM		12C5a	4, 6-10
	3. Measuring and calculating electricity	IPM	Wiring circuits		
	4. Identifying electrical tools and equipment	IPM		13A5a	
	5. Preparing and using schematics	IPM			
	6. Wiring circuits	IPM		11B5a	
<b>III. Metal Fabrication</b>					
	1. Exploring the history of metalworking	IP			A, C, D
	2. Safety in the metal fabrication shop	IPM	shop		4, 6-10
	3. Introduction to Oxyfuel equipment and setup	I			
	4. Oxyfuel cutting and welding	PM		11B5a	
	5. Introduction to Shielded Metal Arc Welding equipment and setup	I		12C5b	
	5. Shielded Metal Arc Welding	PM			
	6. Introduction to Metal Inert Gas Welding equipment	I			
	7. Metal Inert Gas Welding	PM			
	8. Introduction to Plasma, use of plasma cutting machine	IPM			
<b>IV. Ag Power</b>					
	1. Understanding the principles of internal combustion engine	P, M		12C5a	A, C, D
	2. Identifying engine systems and their components	I, P	Overhaul		4, 6-10

	3. Measuring engine components and specifications	I, P			
	4. Applying preventative maintenance practices	P, M			
	5. Using small engines	I, P		11B5a	
	6. Using multiple cylinder engines	I, P			
<b>V. Ag Construction</b>					A, C, D
	1. Planning and designing projects	IPM	lay out rafter	9B5	4, 6-10
	2. Using hand tools	IPM	parts of building	11B5e	
	3. Using power tools	IPM	Bill of materials	11B5c	
	4. Using construction fasteners and hardware	IPM	marking and sawing		
	5. Framing agriculture structures	IPM	Hardware	11B5b	

# BSAA

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Unit	SKILLS	LEVEL	Teaching Notes	STATE GOALS	Workplace Competencies
<b>I. Introduction to Agricultural Research</b>		IPM			<b>A-G</b>
	1. Exploring research methods in agriculture			11A4c, 13A4a	<b>4, 6-14</b>
	2. Designing and conducting agricultural research			13B4b, 13A5b	For All Units
	3. Using Scientific Measurement				
	4. Reporting Agricultural Research				
	5. Safety in the laboratory				
	6. Tools and equipment in the laboratory				
<b>II. Processes within plant cells</b>		IPM		11A4b, 12A4a	
	1. Describe the plant cell's components and functions		Plant Cell Model		
	2. Describe the function and structure of nucleus				
	3. Explain the steps involved in cellular replication		Diffusion Lab		
	4. Explain diffusion		Osmosis Lab		
	5. Explain osmosis and osmotic potential				
<b>III. DNA and Protein Synthesis</b>		IPM			
	1. Describe the structure of DNA			11A4b, 12A4a	
	2. Explain Protein Synthesis				
<b>V. Genetics and Heredity</b>		IPM			
	1. Define genetics and explain why it is important			11A4a, 12A4b	
	2. Explain what factors govern genetics			13A4d	
	3. Explain what Gregor Mendel Learned about Genetics				
	4. Explain the outcome of monohybrid crosses		Punnett Square problems		
	5. Explain the outcome of dihybrid crosses				
	6. Explain relationships between alleles and how to determine probable outcomes of those relationships				
	7. Explain how humans have manipulated the genetic make-up of organisms				
<b>VI. Animal Anatomy</b>		IPM			
	1. Identify external features				
	2. Understand anatomical terminology				
	3. Identify the four actions of muscles- Identify retail cuts		Fetal pig dissection		
	4. Demonstrate proper use of dissection tools				

	5. Identify and explain animal respiratory system				
	6. Identify and explain animal Digestion system				
	7. Identify and explain circulatory, reproductive, and nervous systems in animals				
<b>VII. Animal Reproduction</b>		IPM			
	1. Describe the importance of animal reproduction			11A4c, 12A4b	
	2. List the parts and explain the functions of the female and male reproductive system		Rep. Tract	13A4a	
	3. List and describe the phases of the estrous cycle		Examination		
	4. Explain how artificial insemination is performed				
	5. Explain the advantages and limitations of artificial insemination				
	6. Explain new technologies that are being used in reproductive management of animals				
<b>VIII. Starch Breakdown by Enzymes</b>		IPM		11A5a, 12A4b	
	1. Describe chemical processes of breaking down food in the body		Lab	13A4b	
	2. Explain the role of enzymes in helping digest starches				
<b>IX. Absorption of Nutrients</b>		IPM			
	Identify end products of food which are capable of being absorbed and how they are utilized by animals		Lab	11A4b, 12A4b	
	Describe the role of the plasma membrane in animal cells and explain how a selectively permeable membrane functions				
	Explain how nutrient absorption is affected by food digestibility				