

2013 AG POWER STRUCTURAL TECH SYSTEMS

ACADEMIC		
AA		SPEAKING AND LISTENING
AA	1	Utilize effective verbal and non-verbal communication skills
AA	2	Participate in conversation, discussion, and group presentations
AA	3	Communicate and follow directions/procedures
AA	4	Communicate effectively with customers and co-workers
AB		READING AND WRITING
AB	1	Locate and interpret written information
AB	2	Read and interpret workplace documents
AB	3	Identify relevant details, facts, and specifications
AB	4	Record information accurately and completely
AB	5	Demonstrate competence in organizing, writing, and editing using correct vocabulary, spelling, grammar, and punctuation
AB	6	Demonstrate the ability to write clearly and concisely using industry specific terminology
AC		CRITICAL THINKING AND PROBLEM SOLVING
AC	1	Utilize critical-thinking skills to determine best options/outcomes (e.g., analyze reliable/unreliable sources of information, use previous experiences, implement crisis management, develop contingency planning)
AC	2	Utilize innovation and problem-solving skills to arrive at the best solution for current situation
AC	3	Implement effective decision-making skills
AD		MATHEMATICS
AD	1	Perform basic and higher level math operations (e.g., addition, subtraction, multiplication, division, decimals, fractions, units of conversion, averaging, percentage, proportion, ratios)
AD	2	Solve problems using measurement skills (e.g., distance, weight, area, volume)
AD	3	Make reasonable estimates
AD	4	Use tables, graphs, diagrams, and charts to obtain or convey information
AD	5	Use deductive reasoning and problem-solving in mathematics
AE		FINANCIAL LITERACY
AE	1	Locate, evaluate, and apply personal financial information
AE	2	Identify the components of a budget and how one is created
AE	3	Set personal financial goals and develop a plan for achieving them
AE	4	Use financial services effectively
AE	5	Demonstrate ability to meet financial obligations
AF		INTERNET USE AND SECURITY
AF	1	Recognize the potential risks associated with Internet use
AF	2	Identify and apply Internet security practices (e.g., password security, login, logout, log off, lock computer)
AF	3	Practice safe, legal, and responsible use of technology in the workplace
AG		INFORMATION TECHNOLOGY
AG	1	Use technology appropriately to enhance professional presentations
AG	2	Demonstrate effective and appropriate use of social media
AG	3	Identify ways social media can be used as marketing, advertising, and data gathering tools
AH		TELECOMMUNICATIONS
AH	1	Select and use appropriate devices, services, and applications to complete workplace tasks
AH	2	Demonstrate appropriate etiquette when using e-communications (e.g., cell phone, e-mail, personal digital assistants, online meetings, conference calls)
EMPLOYABILITY		
EA		POSITIVE WORK ETHIC

EA	1	Demonstrate enthusiasm and confidence about work and learning new tasks
EA	2	Demonstrate consistent and punctual attendance
EA	3	Demonstrate initiative in assuming tasks
EA	4	Exhibit dependability in the workplace
EA	5	Take and provide direction in the workplace
EA	6	Accept responsibility for personal decisions and actions
EB		INTEGRITY
EB	1	Abide by workplace policies and procedures
EB	2	Demonstrate honesty and reliability
EB	3	Demonstrate ethical characteristics and behaviors
EB	4	Maintain confidentiality and integrity of sensitive company information
EB	5	Demonstrate loyalty to the company
EC		SELF-REPRESENTATION
EC	1	Demonstrate appropriate dress and hygiene in the workplace
EC	2	Use language and manners suitable for the workplace
EC	3	Demonstrate polite and respectful behavior toward others
EC	4	Demonstrate personal accountability in the workplace
EC	5	Demonstrate pride in work
ED		TIME, TASK, AND RESOURCE MANAGEMENT
ED	1	Plan and follow a work schedule
ED	2	Work with minimal supervision
ED	3	Work within budgetary constraints
ED	4	Demonstrate ability to stay on task to produce high quality deliverables on time
EE		DIVERSITY AWARENESS
EE	1	Recognize diversity, discrimination, harassment, and equity
EE	2	Work well with all customers and co-workers
EE	3	Explain the benefits of diversity within the workplace
EE	4	Explain the importance of respect for feelings, values, and beliefs of others
EE	5	Identify strategies to bridge cultural/generational differences and use differing perspectives to increase overall quality of work
EE	6	Illustrate techniques for eliminating gender bias and stereotyping in the workplace
EE	7	Identify ways tasks can be structured to accommodate the diverse needs of workers
EE	8	Recognize the challenges and advantages of a global workforce
EF		TEAMWORK
EF	1	Recognize the characteristics of a team environment and conventional workplace
EF	2	Contribute to the success of the team
EF	3	Demonstrate effective team skills and evaluate their importance in the workplace (e.g., setting goals, listening, following directions, questioning, dividing work)
EG		CREATIVITY AND RESOURCEFULNESS
EG	1	Contribute new ideas
EG	2	Stimulate ideas by posing questions
EG	3	Value varying ideas and opinions
EG	4	Locate and verify information
EH		CONFLICT RESOLUTION
EH	1	Identify conflict resolution skills to enhance productivity and improve workplace relationships
EH	2	Implement conflict resolution strategies and problem-solving skills
EH	3	Explain the use of documentation and it's role as a component of conflict resolution

EI		CUSTOMER/CLIENT SERVICE
EI	1	Recognize the importance of and demonstrate how to properly acknowledge customers/clients
EI	2	Identify and address needs of customers/clients
EI	3	Provide helpful, courteous, and knowledgeable service
EI	4	Identify appropriate channels of communication with customers/clients (e.g., phone call, face-to-face, e-mail, website)
EI	5	Identify techniques to seek and use customer/client feedback to improve company services
EI	6	Recognize the relationship between customer/client satisfaction and company success
EJ		ORGANIZATIONS, SYSTEMS, AND CLIMATES
EJ	1	Define profit and evaluate the cost of conducting business
EJ	2	Identify "big picture" issues in conducting business
EJ	3	Identify role in fulfilling the mission of the workplace
EJ	4	Identify the rights of workers (e.g., adult and child labor laws and other equal employment opportunity laws)
EJ	5	Recognize the chain of command, organizational flow chart system, and hierarchy of management within an organization
EK		JOB ACQUISITION AND ADVANCEMENT
EK	1	Recognize the importance of maintaining a job and pursuing a career
EK	2	Define jobs associated with a specific career path or profession
EK	3	Identify and seek various job opportunities (e.g., volunteerism, internships, co-op, part-time/full-time employment)
EK	4	Prepare a resume, letter of application, and job application
EK	5	Prepare for a job interview (e.g., research company, highlight personal strengths, prepare questions, set-up a mock interview, dress appropriately)
EK	6	Participate in a job interview
EK	7	Explain the proper procedure for leaving a job
EL		LIFELONG LEARNING
EL	1	Acquire current and emerging industry-related information
EL	2	Demonstrate commitment to learning as a life-long process and recognize learning opportunities
EL	3	Seek and capitalize on self-improvement opportunities
EL	4	Discuss the importance of flexible career planning and career self-management
EL	5	Employ leadership skills to achieve workplace objectives (e.g., personal vision, adaptability, change, shared vision)
EL	6	Recognize the importance of job performance evaluation and coaching as it relates to career advancement
EL	7	Accept and provide constructive criticism
EL	8	Describe the impact of the global economy on jobs and careers
EM		JOB SPECIFIC TECHNOLOGIES
EM	1	Identify the value of new technologies and their impact on driving continuous change and the need for life-long learning
EM	2	Research and identify emerging technologies for specific careers
EM	3	Select appropriate technological resources to accomplish work
EN		HEALTH AND SAFETY
EN	1	Assume responsibility for safety of self and others
EN	2	Follow safety guidelines in the workplace
EN	3	Manage personal health and wellness
OCCUPATIONAL		
OA		ENERGY SOURCES
OA	1	Identify renewable and non-renewable energy sources and pathways of delivery

OA	2	Examine environmental impacts and efficiencies of energy sources
OA	3	Compare the efficiency of energy production from various sources
OB		LUBRICANTS
OB	1	Classify lubricants by source, sustainability, and equipment compatibility
OB	2	Classify lubricants by SAE viscosity and API service classifications
OB	3	Select, use, and dispose of lubricants
OC		HAND AND POWER TOOLS
OC	1	Identify and demonstrate safe use of measurement and layout tools
OC	2	Select, maintain, and use hand/power tools in service, construction, and fabrication
OD		SERVICE ROUTINES
OD	1	Identify power unit and equipment lubrication frequency
OD	2	Ensure the presence and function of safety systems and hardware on tools and equipment
OD	3	Test and service electrical systems and check DVOM Basics
OD	4	Service filtration systems and maintain fluid levels on power units and equipment
OD	5	Adjust equipment, including belts and drives, chains and sprockets, and maintain fluid conveyance components, such as hoses, lines, and nozzles
OD	6	Maintain the cleanliness and appearance of power units and equipment to assure functionality
OD	7	Follow a preventive maintenance schedule for power units and equipment
OE		EQUIPMENT OPERATION
OE	1	Identify power unit and equipment controls and instruments, along with their functions using operation manual/service manual
OE	2	Perform start-up and shut-down procedures on power units and equipment as specified in technical manuals
OE	3	Perform pre-operation inspection according to manufacturers' specifications and/or prevailing industry standards
OE	4	Demonstrate safe practices and regulations in the operation of power units and equipment
OE	5	Perform basic adjustments of equipment (e.g., shields, guards) for safe and efficient operation
OF		ENGINE TROUBLESHOOTING
OF	1	Identify components and systems of internal combustion engines
OF	2	Utilize technical manuals and computer based diagnostics in engine analysis and repair
OF	3	Conduct a performance test on internal combustion engines to determine service and repair of basic spark, ignition, fuel, fire, and compression
OF	4	Describe the operation of internal combustion engines by types of fuel used
OF	5	Analyze and troubleshoot internal combustion engines
OG		HYDRAULIC AND PNEUMATIC SYSTEMS
OG	1	Describe principles of hydraulic and pneumatic system operation
OG	2	Utilize symbols and schematic drawings in the maintenance of hydraulic and pneumatic systems (basic ISO symbols)
OG	3	Identify hydraulic and pneumatic system fittings and ports
OH		ELECTRICAL SYSTEM TROUBLESHOOTING
OH	1	Apply the meaning and measurement of electricity, including amperage, voltage and wattage
OH	2	Identify the kinds and applications of electricity, including direct and alternating current
OH	3	Interpret basic electrical system symbols and diagrams
OH	4	Assess and repair malfunctioning electrical systems and components, such as battery and lighting
OH	5	Service a vehicle's heating and air-conditioning systems
OI		STEERING, SUSPENSION, TRACTION, AND PERFORMANCE SYSTEMS
OI	1	Create sketches and plans of agricultural structures
OI	2	Identify symbols and drawing techniques used to develop plans and sketches (blueprint basics)

OI	3	Apply basic principles of design, fabrication, and installation of agricultural structures
OI	4	Prepare bills of materials to accompany plans and sketches
OI	5	Interpret scale measurement and dimension to develop plans and sketches
OJ		STRUCTURAL PLANS
OJ	1	Identify major parts of a construction drawing
OJ	2	Identify and interpret different views of a construction drawing
OK		CONSTRUCTION AND REPAIR
OK	1	Identify criteria in selecting materials in agricultural construction/fabrication
OK	2	Select types of materials, determine quantities, and estimate their costs associated with a specified project plan
OL		CONSTRUCTION AND REPAIR
OL	1	Perform basic repair with wood and metal
OL	2	Identify electricity measurements and make measurement calculations (use of Ohms Law)
OL	3	Distinguish basic electrical circuits and component
OL	4	Calculate areas and volumes for coatings
OL	5	Paint or protect with coatings
OL	6	Identify insulation materials and methods to achieve desired R-value
OL	7	Insulate a structure
OL	8	Measure and calculate materials for concrete, brick, ston, or masonry units in agricultural construction
OL	9	Measure and calculate fencing materials
OL	10	Construct and/or repair fencing, including wood, static wire, electrical wire, and other fencing materials
OL	11	Identify kinds and characteristics of metal materials
OL	12	Distinguish welding processes, positions, and materials preparation
OL	13	Construct and/or repair metal structures and equipment using welding fabrication procedures, including those associated with SMAW, GMAW, GTAW, fuel-oxygen, and plasma arc torch methods
OM		MONITORING ELECTRICAL SYSTEMS
OM	1	Discuss various types and sources of electricity
OM	2	Use volt and amp meters and continuity testers to demonstrate electricity principles
ON		ELECTRICAL DESIGN
ON	1	Recognize common electrical symbols
ON	2	Read basic drawings for an electrical control system
ON	3	Identify hazards and safety practices in planning, installing, and using electricity
ON	4	Distinguish materials and tools used in electrical installation
ON	5	Identify the importance and use of computer-based systems in agriculture, food, and natural resources
OO		GEOSPATIAL TECHNOLOGIES
OO	1	Explain and evaluate concepts and principles of geospatial technologies
OO	2	Describe equipment and processes used in geospatial technologies
OO	3	Describe principles of precision agriculture for map and sensor based systems
OO	4	Describe the meaning and use of sensors, controllers, and actuators
OP		BUSINESS PLANNING AND OPERATION PROCEDURES
OP	1	Maintain receipts and disbursement records
OP	2	Maintain inventory records