Future Trends

Increasing autonomy of sUAS
Skills shift from active piloting to system monitoring
Multiple aircraft controlled by one pilot
Trend to move beyond visual line of sight (BVLOS) will require new skills sets & technologies
Integration into national airspace
Increasing FAA requirements may lead to change in licensure/certifications needed
Regulatory environment evolving
Commoditization/saturation in sUAS field (personnel, hardware, software)
Increase in data processing automation
Massive data storage and access to data
Maturation of sUAS technologies
Industry consolidation
More pilots/aircrafts lead to more safety concerns and case law
Developing role of insurance (liability)
Industry standards effect on insurance
Public acceptance of SUAS
Cybersecurity considerations
Night operations
Large UAS operations

Acronyms

ATC - Air Traffic Control
BVLOS - Beyond Visual Line of Sight
FAA - Federal Aviation Administration
FOD - Foreign Object and Debris
GNSS - Global Navigation Satellite System
GIS - Geographical Information System
GPS - Global Position Satellite
NOTAMs - Notices to Airmen
OSHA - Occupational Safety and Health Administration
PIC - Pilot in Command
PPE - Personal Protective Equipment
RC - Radio Control
RF - Radio Frequency
RTK - Real Time Kinematic
SOP - Standard Operating Procedure
sUAS - small Unmanned Aircraft Systems
TFR - Temporary Flight Restrictions
VLOS - Visual Line of Sight
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** e.g. battery or liquid
Knowledge and Skills

Microsoft Office
GIS software
Programming skills
Ground control software
Flight simulators
Budgeting/basic accounting skills
Google Earth
Knowledge of system components/functions
Hazmat skills/knowledge
Personal safety
Technology
Battery technology
Advanced mathematics
Read schematic
Read flow charts, block diagrams
Diagnostics & troubleshooting understanding
Radio transmission theory
Photogrammetry theory
Meteorology
OSHA
Solder
Cable/Crimp/Harness
Basic photography/videography
Understanding of geographic projections & coordinate systems
Electromagnetic spectrum
Physics
Grounding and shielding
RTK (Real Time Kinematics)
GNSS (Global Navigation Satellite Systems)
Aviation knowledge
Remote control proficiency
Hand-eye coordination
GIS basic knowledge
Public speaking
Electronics
Project management
First aid
Communication (oral & written)
Able to speak English
Composites
Situational awareness
Aircraft performance
Aeronautical knowledge
Aviation terminology
Instrumentation

Tools and Equipment

Laptop
MSOffice
Driver’s license
Drone
Voltage meter
Spectrum analyzer
Radios
Hand tools
sUAS
Anemometer
Battery charger
Oscilloscope
Soldering iron
Personal Protective Equipment
Lawn mower
Windsock
Generator
Fire extinguisher
First aid kit
Duct tape
Bug spray
Sunscreen
WD-40
Pop-up tent
Fan
Portable lighting
Cables
Cot
Coolers
Table (folding)
Chairs
Trash cans/bags
Food/water
Ice
Traffic cones
Caution tape
Lens cleaning supplies
Transportation cases
Battery storage containers/bags
3-ring binder/clipboard
Shipping supplies
Pencils/pens
Paper
Vinyl lettering
Label maker
Crew apparel
Binoculars
LED headlamp
Adhesives
Fuel containers
Fuel transfer pump
Aircraft starter
Scale
Weight/balance apparatus
Printer (3-D)
Hand-held GPS
Power tools
Surveying equipment

Tools and Equipment, continued

Smart phone
Compass
Aeronautical chart
Map
Range finder
Clinometer
Tachometer
Camera
Video recorder
Tracking device
Monitors
Enclosed trailer
Vehicles
Directional antennas
Micrometer
Tape measure
Level
Shovel
Sledge hammer
Bungee cords
Zip ties
Velcro
Ratchet straps

Worker Behaviors

Risk adverse
Safety conscious
Team player
Able to say “no”
Interpersonal skills
Getting along with others
Competence
Confidence
Disciplined
Able to multi-task
Assertive
Attention to detail
Time lines
Time management
Likes outdoors
Able to handle adverse work environment
Pioneering ethos
Initiative
Integrity
Work ethic
Customer service
Professional
Able to focus/eliminate distractions
Autonomous
Able to work independently
Flexibility
Able to adapt
Self-starter
Problem solving
Ability to follow rules/regulations