# Unmanned Aircraft Systems – Operators

## Los Angeles, Orange, Riverside and San Bernardino Counties

**October 2017**

**Prepared by the Los Angeles/Orange County Center of Excellence for Labor Market Research**

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### Program Recommendation

This report was compiled by the Los Angeles/Orange County Center of Excellence to provide regional labor market data for the program recommendation of operators of unmanned aircraft systems. This report is to help determine whether there is demand in the local labor market that is not being met by the supply from programs of study (CCC and non-CCC) that align with this occupation group.

Based on the data, the COE cannot conclusively determine that there is an unmet need for operators of unmanned aircraft systems in the four-county region, comprising of Los Angeles, Orange, Riverside and San Bernardino Counties. Reasons include:

- There were 46 online job postings in over the past year (10/11/16 – 10/8/17) for operators of unmanned aircraft systems in the four-county region, which does not signal that this occupation is in high-demand
- One college in the region (Cypress) has implemented new programs that study the operation of unmanned aircraft systems, and award data is not yet available for program exiters

### Occupation Codes and Descriptions

According to the Federal Aviation Administration (FAA), unmanned aircraft systems (UAS) are used in many different industries and for a variety of applications, including aerial photography, construction, industrial, and utility inspection, real estate and agriculture. The FAA issued the Small UAS Rule in 2016, which regulates the operation of small unmanned aircrafts within the National Airspace System. Based on registration trends, the FAA is anticipating growth within this sector, both for hobby aircraft and non-hobby or commercial aircraft.[1]

Currently, there are no occupations in the standard occupational classification (SOC) system related directly to piloting unmanned aircraft systems. Therefore, traditional labor market data and forecasting cannot be accurately used to predict future job change in the four-county region. However, real-time labor market information can be used to provide a nuanced view of the current job market, as it captures job advertisements for occupations relevant to the field of study. Employer job postings are consulted to understand who is employing operators of unmanned aircraft systems, and what they are looking for in potential candidates. To identify job postings related to unmanned aircraft systems

[1] https://www.faa.gov/data_research/aviation/aerospace_forecasts/media/Unmanned_Aircraft_Systems.pdf

operators, the following keywords/search terms were used: unmanned aircraft system* operator/pilot, UAS operator/pilot, unmanned aerial vehicle operator/pilot, UAV operator/pilot, drone operator/pilot, unmanned aerial system* operator/pilot, unmanned aircraft vehicle operator/pilot and autonomous operator/pilot. Job postings that were classified as above middle-skill (i.e. chief engineers) were removed from this report.

Between October 11, 2016 through October 8, 2017 (the past 365 days), there were 46 middle-skill job postings related to unmanned aircraft systems operators in Los Angeles, Orange, Riverside and San Bernardino Counties.

*Top Titles*

The top job titles for employers posting ads for unmanned aircraft systems operators are listed in exhibit 1. Unmanned Aerial Vehicle Pilot was mentioned as the job title in 22% of all relevant job postings (10 postings).

**Exhibit 1 –Job titles (n=46)**

| Title | Job Postings, 10/11/16 – 10/8/17 |
|---|---|
| Unmanned Aerial Vehicle (UAV) Pilot | 10 |
| Drone Repair Technician | 7 |
| Avionics Technician | 6 |
| Drone Pilot | 6 |
| Aerial Cinematographer/Drone Operator | 6 |
| UAV Pilot – Deployable | 5 |
| Computer Operator | 2 |
| UAS Assistant Flight Operations Manager | 1 |
| Drone Racing Software Intern | 1 |
| Drone Robotics/Aerial Cinematography Intern | 1 |
| UAV Design Optimization Intern | 1 |

Source: Labor Insight/Jobs (Burning Glass)

*Top Employers*

Exhibit 2 lists the major employers hiring professional pilots and operators of unmanned aircraft systems. Top employers postings job ads included General Atomics, Northrup Grumman and VUABOV. The top worksite cities in the region for these occupations were mainly in Los Angeles County (42 postings), followed by San Bernardino County (3) and Riverside (1). Orange County had no job postings for this time period.

**Exhibit 2 – Top employers (n=24) and worksite cities (n=46)**

| Employer | Job Postings, 10/11/16 – 10/8/17 | Location | Job Postings, 10/11/16 – 10/8/17 |
|---|---|---|---|
| General Atomics | 9 | Palmdale (LA) | 18 |
| Northrop Grumman | 3 | Los Angeles (LA) | 12 |
| VUABOV, LLC | 3 | Long Beach (LA) | 5 |
| Altitude Imagery | 2 | Burbank (LA) | 3 |
| General Dynamics | 2 | Carson (LA) | 2 |
| Capital Markets Placement | 1 | Adelanto (SB) | 1 |
| Drone Squad | 1 | El Segundo (LA) | 1 |
| L.A. Drones LLC | 1 | Fort Irwin (SB) | 1 |
| MCR, LLC | 1 | Pasadena (LA) | 1 |
| Millennium Engineering And Integration Company | 1 | Riverside (R) | 1 |
| | | Victorville (SB) | 1 |

Source: Labor Insight/Jobs (Burning Glass)

*Certifications and Skills*

Security clearance is the most sought after certification for unmanned aircraft systems operators and was included on 100% of the postings that specified a certification. It can be inferred that these jobs (over one-third of all the UAS job postings) are military, defense, or other government agency positions. The other certifications present on postings were pilot certification (65% of postings that listed certifications) and certified flight instructor (53%). Job-specific skills desired by employers are repair, knowledge of FAA regulations, flight safety, resource management and photography.

**Exhibit 3 –Job certifications (n=17) and job skills (n=31)**

| Certification | Job Postings, 10/11/16- 10/8/17 | Skills | Job Postings, 10/11/16– 10/8/17 |
|---|---|---|---|
| Security Clearance | 17 | Repair | 10 |
| Pilot Certification | 11 | FAA Regulations | 9 |
| Certified Flight Instructor | 9 | Flight Safety | 9 |
| | | Resource Management | 9 |
| | | Photography | 7 |

Source: Labor Insight/Jobs (Burning Glass)

**Education and Training**

Currently, there is one community college in the four county region that trains students in programs related to unmanned aircraft systems (UAS). Cypress College began offering three certificates related to UAV/UAS, and one degree beginning in Fall 2016. Since these are new programs, there is not yet completion or exiter data available. Exhibit 4 shows the TOP codes, program titles, award types and number of units for each program award.

**Exhibit 4 – CCC Student Awards (by TOP and College)**

| TOP Code | Program | Award Type | # of Units |
|---|---|---|---|
| 1012.00 | UAV/UAS Drone Photography and Video | Certificate | 15 |
| 3020.20 | UAV/UAS Basic | Certificate | 16 |
| | UAV/UAS Advanced | Certificate | 35 (Basic Certificate + 19 Units) |
| | UAV/UAS | AS | 60 (Advanced Certificate + GE) |

Source: California Community Colleges Chancellor's Office MIS Data Mart

**Sources**

O*Net Online, Labor Insight/Jobs (Burning Glass), Economic Modeling Specialists International (EMSI), MIT Living Wage Calculator, Bureau of Labor Statistics (BLS) Education Attainment, California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, CTE LaunchBoard, Statewide CTE Outcomes Survey, Employment Development Department Unemployment Insurance Dataset

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**Notes**

Data included in this analysis represents the labor market demand for positions most closely related to operators of unmanned aircraft systems. Real-time labor market information captures job post advertisements for occupations relevant to the field of study and should not be used to establish current job openings, because the numbers may include duplicate job postings or postings intended to gather a pool of applicants. Real-time labor market information can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions.