



Drone Exploring: Career Spotlights

Surveying — Post

Overview: This session takes a serious look at drone land surveying as a career, including the roles involved (drone survey technician, licensed land surveyor, photogrammetry specialist), the education and certifications needed (FAA Part 107, surveying and geomatics coursework, recurrent training), and realistic pay ranges. Explorers plan a mock boundary and topographic survey mission and review a sample survey deliverable list.

OBJECTIVES

- Understand the roles and education pathways within drone-based land surveying.
- Learn the certifications needed for this field: FAA Part 107 plus ongoing recurrent training every 24 months.
- Identify realistic pay ranges from drone survey technician to licensed surveyor roles.
- Practice planning a mock boundary and topographic survey mission and reviewing a sample deliverable list.

SUPPLIES

- Laptop and projector to show sample drone survey outputs (point clouds, topographic maps)
- Printed handouts: Career Pathway — Drone Land Surveyor and Survey Mission Planning Worksheet
- Whiteboard or flip chart and markers
- Optional: printed or digital copy of FAA's free Part 107 study guide ([faa.gov/uas](https://www.faa.gov/uas))

ADVISOR NOTES

- This session is career-focused: Use real certification requirements, real pay ranges, and real deliverables rather than a hobbyist framing.
- Clarify that a drone can collect survey data, but only a licensed land surveyor can legally certify a boundary survey. The drone is a tool, not a replacement for the license.
- Encourage Explorers who are 16 or older and interested to look at the FAA Part 107 study guide as a concrete next step after this session.
- Consider inviting a guest speaker who works as a licensed surveyor or drone survey technician to share their career path. See Optional Extensions.
- If no guest speaker is available, Advisors can run the entire session using this outline, the Career Pathway handout, and the resource links below.

SESSION OUTLINE

- **Welcome and Icebreaker** (10 min)
 - Ask: "What would you want to know for certain before building something big, like a house or a road?"
- **Regulatory Moment: Certification and Licensing** (10–15 min)
 - Review the FAA Part 107 Remote Pilot Certificate: minimum age 16, required knowledge test, and free recurrent training required every 24 months.
 - Explain that a licensed land surveyor (a separate professional license, usually requiring a degree and exam) must ultimately certify boundary and legal survey work.
 - Discuss how drone data supports, but doesn't replace, the surveyor's professional judgment and legal responsibility.
- **Mini-Lesson: Careers in Drone Land Surveying** (15–20 min)
 - Roles: drone survey technician, GIS or mapping specialist, licensed land surveyor, photogrammetry specialist.
 - Typical pay: Drone surveyors typically earn \$70,000-\$80,000/year, with technicians holding Part 107 certification earning \$60,000-\$100,000/year; experienced specialists can exceed \$100,000/year; median wage across the field is roughly \$83,100/year.

- **Activity: Plan a Boundary or Topographic Survey Mission** (20–25 min)
 - Using the Survey Mission Planning Worksheet, small groups plan a mock survey: flight altitude, ground control points, overlap percentage, and expected deliverables.
- **Discussion: Reviewing a Survey Deliverable List** (10 min)
 - Discuss what a client (a homeowner, builder, or engineer) would expect to receive from a completed survey (maps, point data, reports).
- **Wrap-Up Discussion** (10 min)
 - Groups present their survey mission plans.
 - Discuss the concrete steps (certification, degree and licensing path, experience) needed to pursue this as a career.

REFLECTION SECTION

Advisor Note: Some sample questions are below. They are designed to help the participants apply what they have learned to their own interests. You are welcome to use these questions or develop your own.

Focusing Questions

- What surprised you about the difference between a drone survey technician and a licensed surveyor?
- Which part of this field (flying, data processing, legal certification) sounds most interesting to you?

Analysis Questions

- Why does a licensed surveyor still need to review and certify data collected by a drone?
- How does recurrent training every 24 months help keep drone survey work safe and accurate?

Generalization Questions

- How is the balance between using new technology and maintaining professional responsibility relevant in other careers?
- What other careers require both a technical certification and a professional license, like this one does?

Challenge: This week, research one degree or certificate program in surveying or geomatics and identify what it takes to become a licensed surveyor in your state.

OPTIONAL EXTENSIONS

Guest Speaker: Invite a licensed land surveyor or drone survey technician to share their career path and take questions, in person or by video call.

Advisor-Led Option: If no guest speaker is available, Advisors can run the full session using this outline, the Career Pathway handout, and the resource links below. No outside expert is required.

Resource Links: FAA Part 107 overview (faa.gov/uas/commercial_operators); National Society of Professional Surveyors resources; state licensing board websites for surveying.

Extension Project: Explorers who are 16 or older can begin studying for the actual Part 107 knowledge test using the FAA's free study guide.

Handout: Career Pathway — Drone Land Surveyor

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A typical path into this career looks like this:

1. Interest and Hobby Flying

Learn basic drone operation and become comfortable with mapping and flight-planning apps.

2. FAA Part 107 Certification (Age 16+)

Pass the FAA knowledge test to legally fly for pay, and complete free recurrent training every 24 months.

3. Drone Survey Technician Role

Support licensed surveyors by collecting drone data; pay typically \$60,000-\$100,000/year with certification.

4. Surveying or Geomatics Degree and License Exam

A degree in surveying or geomatics plus passing a licensing exam is required to become a licensed surveyor.

5. Licensed Surveyor and Specialist Roles

Licensed surveyors and experienced specialists can earn \$100,000+; overall median pay in the field is roughly \$83,100/year.

Handout: Survey Mission Planning Worksheet

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Use this worksheet to plan your mock boundary and topographic survey mission.

Planning Item	Your Plan	Notes and Risks
Flight altitude		
Ground control point locations		
Image overlap percentage		
Expected deliverables (maps, reports)		
Who reviews or certifies the final data		