1 Essential Flight Training

📌 Basic Aircraft Handling

Principles:

- Pilots must maintain a steady flight to ensure smooth patient transport.
- ATC communication should be clear, concise, and consistent.
- Smooth landings reduce the risk of patient injury.

How to Teach:

- Start in a **low-traffic area** and have the trainee take off to **5,000 feet.**
- Monitor their ability to maintain a **steady altitude and heading for 10 minutes.**
- Have them communicate basic ATC phrases for EMS flights.
- Observe their approach and landing technique, ensuring **minimal bounce.**

Benchmarks for Completion: ✅ Maintain heading within **±10 degrees**. ✅ Maintain altitude within **±200 feet**. ✅ Smooth landings with a **descent rate below 250 ft/min**. ✅ ATC communication is clear and follows EMS radio protocols.

Common Mistakes & Fixes: ❌ **Overcorrecting heading changes** → Teach small, smooth control inputs. ❌ **Unstable altitude hold** → Have them use **trim** to stabilize altitude. ❌ **Hard landings** → Teach them to reduce descent rate and flare gently before touchdown.

Extra Scenario:

- Assign a **basic emergency:** Trainee must simulate an in-flight emergency (e.g., turbulence, a medical emergency onboard) and respond using ATC communication.

📌 Short Takeoff & Landing (STOL)

Principles:

- Short-field landings help EMS reach difficult terrain.
- Quick takeoffs allow fast transport to hospitals.

How to Teach:

- Start with a **longer runway** before progressing to a **short field.**
- Have them rotate at **proper takeoff speed** and apply max takeoff power.
- Teach proper braking and reverse thrust techniques after landing.

Benchmarks for Completion: ✅ Takeoff within **1,500 feet** of runway length. ✅ Touchdown at or near **designated landing markers**. ✅ Full stop within **2,000 feet**.

Common Mistakes & Fixes: ❌ **Taking off too late** → Ensure proper rotation speed is reached quickly. ❌ **Floating down the runway** → Reinforce early flare for a shorter landing distance. ❌ **Ineffective braking** → Teach them to apply brakes smoothly but firmly.

Extra Scenario:

- Simulate a **high-stress scenario**: Have them land on a **short, emergency landing strip** while carrying an injured patient.

📌 Water Landings (Seaplanes or Ditching Procedures)

Principles:

- Smooth water landings prevent aircraft from flipping.
- Pilots must be able to assess water conditions before landing.

How to Teach:

- Have the pilot approach the water **at a shallow descent angle.**
- Ensure they cut power **just before touchdown** for a smooth glide.
- Teach emergency shutoff and evacuation procedures.

Benchmarks for Completion: ✅ Touchdown with a **descent rate below 200 ft/min**. ✅ Maintain wings level at touchdown. ✅ Execute shutdown and evacuation within **30 seconds**.

Common Mistakes & Fixes: ❌ **Approaching too fast** → Have them deploy **flaps** earlier to slow descent. ❌ **Landing too steeply** → Emphasize **gradual flare** just before touchdown. ❌ **Forgetting shutdown steps** → Go through the emergency checklist step-by-step.

Extra Scenario:

- Simulate a **forced water landing** due to engine failure and require the pilot to exit safely.

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2 Emergency Landing Training

📌 Engine Failure Landing

Principles:

- Pilots must react quickly and glide the aircraft efficiently.
- Choosing the right landing site is critical.

How to Teach:

- Simulate engine failure at **5,000 feet.**
- Have them find a suitable landing spot within range.
- Guide them in maintaining a **steady glide at best glide speed.**

Benchmarks for Completion: ✅ Identify a landing site within **15 seconds**. ✅ Maintain best glide speed within **±5 knots**. ✅ Execute landing within **the first third of the field**.

Common Mistakes & Fixes: ❌ **Delaying decision-making** → Reinforce **immediate assessment** of landing sites. ❌ **Not maintaining glide speed** → Teach them to adjust pitch smoothly. ❌ **Poor landing site selection** → Encourage them to prioritize **flat and obstacle-free areas.**

Extra Scenario:

- Have them experience a **simulated partial engine failure** and determine whether to land immediately or attempt troubleshooting.

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3 Air & Ground EMS Response Training

📌 Medical Evacuation (MedEvac) Missions

Benchmarks for Completion: ✅ Land within **500 feet** of the designated pickup site. ✅ Patient loading completed within **60 seconds**. ✅ Depart within **90 seconds** of touchdown.

Extra Scenario:

- Introduce **unexpected challenges** like low fuel or weather changes.

🔥 Final Test & Certification

🏆 **Scenario-Based Emergency Response Benchmarks for Completion:** ✅ Quick, decisive emergency response with accurate ATC communication. ✅ Smooth landing

with **minimal risk to passengers**. ✅ Effective coordination with ground crews. ✅ Efficient patient pickup and departure.