Ground School Topics

First Day - pants, long sleeve shirt, gloves, learn equipment, radios, layout wing in horseshoe shape, forward inflations, 'building a wall', reverse inflations, 'turn-feel-run', 'sled rides', directional control, flare timing, short hops, how to fold a wing, equipment care, describe P1/P2 programs: ~10 lessons, 5 is minimum for USHPA, visualize what you did right

Weather: **Clouds** - cumulus, lenticular, virga, mammata **Wind** - rotor, gradients, gust fronts, convergence, venturi effect, glass-off **Systems** - high/low pressure, approaching fronts, moisture **Stability** - thermals, dust devils, lapse rate, inversions

Air Characteristics - summer/winter, sea level/high altitude, moisture, anabatic, katabatic, rotor, crabbing, wakes, mechanical turbulence, shear turbulence, thermal turbulence, gusts

Site Specific Dangers - wind, traffic, turbulence, rotor, power lines, water, houses, fences, trees, gullies, footing, etc.

Aerodynamics - stall, drag, airspeed vs. groundspeed, pitch, roll, and yaw, polar curve, wing loading, angle of attack, density altitude, brakes increase pressure

Pre-Flight - weather conditions, how you feel, wing check, lines check, reserve pin, leg straps, chest strap, chin strap, speed bar, hooked into carabiners with A's on top, hook knife, brakes in proper hands, radio check, instruments, flight plan, check traffic, inflate, window clear of traffic

Soaring / Thermaling - right of way, see and avoid, flight pattern, overtake on the right, lighter/stronger condition considerations, thermic vs. laminar, no downwind turns while ridge soaring, thermaling rules, airspeed vs. groundspeed, cross conditions, flying with tandems and hang gliders, wakes

Getting Blown Back - how to avoid, streamline, be patient, speed bar, crabbing, going over the back, picking a suitable LZ that is behind you, landing in strong wind/rotor, C-riser deflations

Landing Approaches - S-turns, aircraft approach, big ears, obstructions, mechanical turbulence, object fixation, calm hands, straight flight into wind, hold your flare, flare if you are going to run into another object, high wind landings, C Riser deflations, shorten and lengthen glide path, location of S-turns

Equipment - wings, harnesses, back protection, helmets, speed system, hook knife, reserves, wind indicators, radios, gps, varios, flight deck, xc gear, economy can be dangerous - go for quality, go for latest technology, go new

Equipment maintenance - yearly check up, velcro lock, reserve repacks, folding the wing, UV damage, porosity check, line strength test, line length check, riser length checks, dirt in wing, rocks, standing on lines

USHPA - national organization, rating requirements, you are insured with $1 million of 3rd party coverage, site preservation, legal presence, offers logical progression to our careers in this sport, P1-5 ratings, special skills

DHV / LTF / EN Testing - test pilots issue ratings to wings, they fly both the high and low ends of the gliders weight range, they fly with chest strap at 42 cm wide, DHV is German and issues ratings of 1, 1-2, 2, 2-3, uncertified (competition), and tandem.

Maneuvers Descriptions - big ears, asymmetrics, directional control, frontals, parachutage (deep stall, constant stall), b-line stalls, front horseshoe, wing-overs, spirals, stable spirals, cravattes, stalls, spins, asymmetric spirals, roll reversals (loops), SAT, Tumble, should only be practiced over water w/supervision

FAA - FAR 103, sectionals, class A through G, NOTAMs (Notice to Airmen), TFRs (Temporary Flight Restrictions), don't fly over towns

Reserve Class - when and how to toss, reserve pin inspection, repack every 6 months

Log Book - good learning tool after certification, log flights, sights, wind, weather, launch and landing altitudes, wing flown, thoughts, helps fulfill future ratings

After P2 - use your log book, USHPA P2 recommendations (don't fly in gusty, turbulent conditions), use reference material, read and watch videos, fly with other people, ask other pilots if the air is good, don't be first to launch, get a lot of airtime and experience, take **hundreds** of sled rides, practice kiting a lot, practice forward inflations, P3 requirements, advanced courses - mountain clinic, thermal clinic, maneuvers clinic, cross country clinic, competition clinic, tandem flying, personal coaching, read USHPA magazines, look on internet, study the sky and patterns for the area, every site is different, learn slowly and safely, **intermediate syndrome** - see it coming and mitigate it