



UMES AVIATION SCIENCE NORMAL FLIGHT PROCEDURES

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UMES Aviation Science Normal Flight Procedures

As soon as destination or flight plan is defined

- Plan for airports of intended landing
 - Takeoff and landing distances, route, checkpoints, Airport and airspace information.
- Complete weight and balance
- Review maneuvers to be completed if appropriate
- Plan for meals, class work etc... ensure adequate preflight planning and preparation time prior to the scheduled flight time

Day before flight

- Complete flight plan with forecast winds

Night before flight

- Check weather
- Complete IMSAFE checklist
- Update flight plan and provide a copy to your instructor

Morning of flight

- Check weather, file flight plan and update timings with current forecast winds
- Complete IMSAFE checklist
- Plan to arrive at the airport at least 15 minutes prior to your planned flight time

Arriving at the airport

- Check winds, weather, NOTAMs and TFRs
- Check with your flight instructor for any changes and update flight plan and weight and balance as necessary
- Make go/no go decision

Preflight

- When approaching the aircraft take a broad view and look for any obvious damage, flat tires, leaking fluid
- Enter the aircraft, and check that all required documents and safety equipment are on board
- Complete the preflight checklist procedure
- Log start times in notebook

Before Start

- Organize cockpit, ensure all needed charts and other items are in order
- Brief passengers on seatbelt usage, use of exits and any other important safety information - i.e. if the seat slips don't grab the yoke
- Complete the Before Start Checklist

Starting

- Complete the Engine start checklist
 - Clearing prop area requires loud call out "clear prop" and visual scan of area with verbal statement that the area is clear
- Confirm rise in engine oil pressure immediately after engine start
- Complete the After Start checklist

Before Taxi

- Retrieve and copy weather
- Set altimeter and heading indicator
- Complete appropriate checklist
- Request taxi clearance
 - Copy taxi clearance and read back
 - Check Airport diagram for taxi route

- Confirm direction of turn out from parking and clear area before taxiing
- Complete a brake check as soon as the aircraft starts rolling - if another pilot is in the aircraft ask them to check their brakes. Use positive transfer of control procedures.

Taxi

- Taxi at the pace of a brisk walk remaining on taxiway centerline at all times
- Use crosswind control corrections and confirm correct control position after each turn using heading indicator and windsock
- Comply with taxi clearance and ensure hold short or crossing instructions are read back and complied with
 - Verbally confirm each taxiway turn - i.e. slight right on Delta
- Upon reaching any runway hold short line, confirm cleared to cross verbally and look each direction and confirm clear. Verbally call out clear in each direction before entering runway
- Maintain vigilance for aircraft, pedestrians, vehicles or debris that may be in your path

Run up

- Maneuver the airplane into the run up area to face into the wind while ensuring you are not in the way of other aircraft. Ensure that your prop wash will not affect others
- Complete the run up checklist
 - While using the parking brake or holding the brakes continuously visually monitor the aircraft position to ensure the brakes hold and the aircraft does not move forward.
- Complete the before takeoff checklist
- Ensure final cockpit organization is complete and radio frequencies are set
- During the takeoff briefing ensure you have defined takeoff type, direction of flight and altitudes and any special considerations (i.e. crosswinds, gusts, traffic, emergencies)
- Ensure the area is clear and consider other aircraft before moving to the hold short line.
- All of the aircraft must remain behind the hold short line

Hold short

- Call for takeoff clearance, reporting intentions to the tower controller (pattern work or direction of departure)
 - Read back all clearance or hold short instructions
- Complete the final items on the before takeoff checklist
- Start timer or note takeoff time - actual time of departure (ATD)
- Clear runway each direction and verbally call clear before entering the runway

Takeoff

- Unless completing a short field takeoff, taxi onto the runway using yellow entry line, line up and smoothly apply power while the aircraft is rolling
- Use appropriate crosswind control technique
- Check and verbally confirm engine power, engine instruments are normal
- Verbally call out airspeed alive
- Maintain directional control and rotate at V_r
- Establish pitch for V_y and apply rudder for coordination
- Maintain runway centerline during departure climb unless otherwise requested by air traffic control or instructor
- Guard the throttle with your right hand until 500' AGL

Climb

- Climb to 500' AGL before making a turn on course unless otherwise directed by ATC or instructor
- Climb to 700' AGL before turning crosswind if staying in the pattern
- Maintain V_y , coordination and appropriate headings/ground track
- Complete the After Takeoff checklist

Departure

- Comply with ATC clearance for turns on course
- At non-towered field, depart straight out or 45 degrees in the direction of pattern turns after reaching pattern altitude per AFM and AIM
- Climb to assigned or flight plan altitude at V_y pitch
- Monitor ground track, maintaining heading to produce desired track
- Scan for traffic
- Report to ATC when leaving their airspace
- Contact FSS to open flight plan and approach control for flight following
- Level off at cruise altitude with pitch, adjusting power to planned setting as aircraft accelerates to cruise speed
- Complete cruise checklist

Cruise

- Monitor ground track and checkpoint timings, adjusting heading as necessary to maintain planned track
- Continuously evaluate possible diversion locations along the route of flight
 - Nearest airport, relative location, distance
- Scan engine instruments, ammeter and annunciators regularly
- Every 15 minutes: check heading indicator and switch fuel tanks
- Scan for traffic continuously

Maneuvers

- Complete the Pre-maneuver checklist
- Maneuvers should be completed per the AFH and the Private Pilot ACS
- Complete the Post-maneuver checklist

Approach

- 20 miles from destination: get weather, plan pattern entry and plan for descent
- Complete Approach checklist prior to descending from cruise altitude
- 10 miles from destination: contact ATC or make initial calls at non-towered airport
- Begin descent at planned distance with goal of reaching pattern altitude 1-2 miles before entering pattern
- Enter pattern as directed by ATC or per Airplane Flying Handbook (AFH) chapter 7 for non-towered fields
- Make required calls, read back all clearances and scan for traffic

Traffic Pattern

- Traffic patterns should be entered and flown per the AFH chapter 7
- Level off at pattern altitude and establish appropriate power setting
- Complete before landing check on downwind with verbal call outs and touch verification
- Communicate with ATC and receive traffic and landing clearance or make non-towered calls as appropriate
- Configure aircraft for landing and complete landing procedure as prescribed
- On base visually confirm and verbally call out final approach clear before turning final
- Monitor runway area and aircraft or vehicles holding short. Be prepared to go around.

After landing

- Clear the runway as soon as can be safely done or as directed by ATC
- Bring the aircraft to a stop after fully passing the hold short line
- Complete the After Landing checklist
- Contact ground control or taxi as instructed to parking

Parking

- Park the aircraft in the location directed
- Complete the Shutdown checklist
- Record ending times in the notebook
- Exit the aircraft, removing all personal items and trash
- Complete a post flight walk around the aircraft
- Close your VFR flight plan

Checklist usage

- Checklist usage is mandatory for all phases
- Fire checklists must be memorized
- Engine failure checklist should be committed to memory
- Checklist items should be verbally called out with touch confirmation
 - For example - Mixture Rich - Touch the mixture control confirming it is full rich and state “mixture rich”

Change log:

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