



Flight Training

Information



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Getting Started

Instructions for Students Starting a New Certificate or Rating

1. Create student folder (if none)
 - a. Add appropriate tracking sheet
 - b. Add SCSU Professional Flight Program Guide
2. Online Scheduling
 - a. Register on WA site
 - b. Review/Update contact information
3. Obtain appropriate materials
 - a. Jeppesen Flight Syllabus
 - i. Explain/review
 - b. Jeppesen Maneuvers Guide
 - c. Jeppesen Manual (Private or Instrument/Commercial)
 - d. WA/SCSU Flight Information Guide
 - e. Additional Supplemental Materials as needed
 - i. POH
 1. Supplemental POH materials (i.e. avionics/autopilot/GPS/FD)
 - ii. Appropriate PTS
 - iii. Current FAR/AIM
 - iv. Current charts – VFR/IFR
 - v. AFD
 - vi. Airplane Flying Handbook
 - vii. Logbook
 - viii. Headset
 - ix. Flight computer and plotter
 - x. Aircraft checklist
 - xi. Kneeboard/clipboard/notebook
 - xii. Other books
 1. Airplane Flying Handbook
 2. Instrument Flying Handbook
 3. Pilot's Handbook of Aeronautical Knowledge
 4. Aviation Weather Services
 5. Aviation Instructor's Handbook
4. SCSU Online Resources
web.stcloudstate.edu/slanderson
Password – SCSUWA
 - a. SCSU Aviation Safety Management Program
 - b. Navigation logs
 - c. Stage check forms
 - d. Weight and Balance Spreadsheet

Lesson Scheduling Policies

1. Scheduling

- Should be done via the online system at www.wrightaeroinc.com
- Must be supervised by the flight instructor
- Same day scheduling or lesson cancellation **must** be done via Wright Aero dispatch (320-252-5858)
- Only **one** lesson at a time can be scheduled over the phone
- Block scheduling must be accomplished

2. Lesson Cancellations

- **Must** be done through dispatch
- A twenty-four hour notice of lesson cancellation is preferred
 - i. All morning lessons must be cancelled by 6pm the previous day
 - ii. All afternoon lessons must be cancelled by noon, with a minimum of three hours notice
- Students and instructors need to make arrangements on whether or not a lesson should be cancelled in the event of questionable weather

3. No-Shows

- If the lesson cancellation criteria are not met, a no-show charge will be assessed
 - i. Students will be charged for one-hour of the appropriate dual rate
- No-show charges must be paid before another lesson or flight is conducted
 - i. Waiving of no-show charges can only be approved by Wright Aero management

4. Flight lessons and non-instructional flights

- Students are expected to arrive at Wright Aero at least:
 - i. 15 minutes prior to a local dual flight lesson
 - ii. 1 hour prior to a cross-country flight lesson

5. Wright Aero Accounts

- Students are expected to pay for one lesson at a time
- Gift certificates are available

6. Only Wright Aero employees are allowed behind the flight department desk

Stage Check Information

1. Stage checks are mandatory for all SCSU training.
2. Stage checks must be done with the Chief Flight Instructor or the Assistant Chief Flight Instructor.
3. Stage check scheduling
 - a. Instructor permission is required prior to scheduling a stage check
 - b. Stage check instructor must be also contacted prior to scheduling
 - c. Recommended time to schedule:
 - i. Private Stage Checks
 1. Stage 1
 - a. One hour for ground
 - b. One and a half hours for flight
 2. Stage 2
 - a. Two hours for ground
 - b. Two hours for flight
 - c. Flight planning: a cross-country
 3. Stage 3
 - a. Three hours for ground
 - b. Two hours for flight
 - c. Flight planning: a cross-country near the range of the aircraft
 - ii. Instrument Stage Checks
 1. Stage 1
 - a. One and a half hours for ground
 - b. Two hours for flight
 2. Stage 2
 - a. Three hours for ground
 - b. Two and a half hours for flight
 - c. Flight planning: a cross-country near the range of the aircraft
 - iii. Commercial Stage Checks
 1. Initial
 - a. Three hours for ground
 - b. Two hours for flight
 - c. Flight planning: a cross-country near the range of the aircraft
 2. Add-On
 - a. One hour for ground
 - b. Two hours for flight
 - iv. Multi-engine Stage Check
 1. Private Add-On
 - a. One and a half hours for ground
 - b. One and a half hours for flight (w/o instrument work)
 - c. Two hours for flight (w/instrument work)

Check Ride Information

1. Designated Pilot Examiners
 - a. Individuals (with instructor consent) have the right to choose *any* DPE
2. Documentation required
 - a. Airman
 - i. Government issued photo identification (i.e. Passport or Driver's License)
 - ii. Pilot certificate
 - iii. Current medical certificate
 - iv. Logbook
 1. Flight review (if applicable)
 2. Currency requirements
 3. Sign-offs appropriate to rating sought
 4. Minimum flight hours met and/or exceeded
 - v. Completed airman application via IACRA
 - b. Aircraft
 - i. AROW
 - ii. Logbooks
 1. Proof of required inspections/Airworthiness Directives
 - c. **Current** aeronautical charts
3. Aircraft performance
 - a. Takeoff and Landing data
 - b. Weight and Balance calculations
4. Weather for proposed flight
 - a. Departure, En-route, Destination (Current and forecast weather)
 - i. METARs, TAFs, FAs, FDs, NOTAMs, PIREPs, Airmets, Sigmet, etc.

Check ride recommendations

- d. First impressions do matter
 - i. Dress professionally and sell yourself as a knowledgeable candidate
 - ii. Be organized
 1. Have all documents and data gathered
 - iii. Prepare as much as you can prior to the check ride
 1. Acquire adequate knowledge, skill and professionalism
 2. Utilize resources (Oral Exam Study guides, etc.) to anticipate how to answer expected questions
 - iv. Show up early to finish calculations
 1. Allow adequate time to obtain weather and complete planning
- e. Think positive and take charge
 - i. Show the Examiner that you know what is expected of a pilot-in-command
- f. When asked a question, pause, think it through, and ask questions if you are unsure of what the question is asking
 - i. If answer is known, give a positive response
 - ii. If answer is not known, ask for permission to "look it up" – and know where to find the information



Cessna 152 Maneuvers

*****For other maneuvers not listed, please refer to the airplane's POH, the Airplane Flying Handbook, the PTS and the Jeppesen Maneuvers Guide.*****

Pre-Maneuver Set-up

- Clearing turns
- Fuel Selector – On
- Mixture – Rich
- Carburetor Heat – As appropriate

Slow Flight and Stalls

Slow Flight / Power-Off Stalls / Power-On Stalls:

- Reduce throttle as appropriate
 - Approximately 1700 RPM
- Pre-maneuver set-up

Ground Reference Maneuvers

Rectangular Course / S-Turns / Turns Around a Point / Eights-On-Pylons:

- Throttle as required

- Approximately 2300
- Airspeed 95 knots

- Pre-maneuver set-up

Performance Maneuvers

Steep Turns / Chandelles / Lazy Eights:

- Throttle as required
 - Approximately 2300 RPM
 - Airspeed 95 knots
- Pre-maneuver set-up

Steep Spirals

- Pre-maneuver set-up
- Throttle idle
- Airspeed 70 knots

Cessna 172R Maneuvers

*****For other maneuvers not listed, please refer to the airplane's POH, the Airplane Flying Handbook, the PTS and the Jeppesen Maneuvers Guide.*****

Pre-Maneuver Set-up

- Clearing turns
- Fuel Selector – Both
- Mixture – Rich

Slow Flight and Stalls

Slow Flight / Power-Off Stalls / Power-On Stalls:

- Reduce throttle as appropriate
 - Approximately 1700 RPM
- Pre-maneuver set-up

Ground Reference Maneuvers

Rectangular Course / S-Turns / Turns Around a Point / Eights-On-Pylons:

- Throttle as required
 - Approximately 2100 RPM
 - Airspeed 95 knots

- Pre-maneuver set-up

Performance Maneuvers

Steep Turns

- Throttle as required
 - Approximately 2100 RPM
 - Airspeed 95 knots
- Pre-maneuver set-up

Chandelles / Lazy Eights:

- Throttle as required
 - Approximately 2300 RPM
 - Airspeed 105 knots
- Pre-maneuver set-up

Steep Spirals

- Pre-maneuver set-up
- Throttle idle
- Airspeed 75 knots

Cessna 172P Maneuvers

*****For other maneuvers not listed, please refer to the airplane's POH, the Airplane Flying Handbook, the PTS and the Jeppesen Maneuvers Guide.*****

Pre-Maneuver Set-up

- Clearing turns
- Fuel Selector – Both
- Mixture – Rich
- Carburetor Heat – As appropriate

Slow Flight and Stalls

Slow Flight / Power-Off Stalls / Power-On Stalls:

- Reduce throttle as appropriate
 - Approximately 1700 RPM
- Pre-maneuver set-up

Ground Reference Maneuvers

Rectangular Course / S-Turns / Turns Around a Point / Eights-On-Pylons:

- Throttle as required
 - Approximately 2100 RPM
 - Airspeed 95 knots
- Pre-maneuver set-up

Performance Maneuvers

Steep Turns

- Throttle as required
 - Approximately 2100 RPM
 - Airspeed 95 knots
- Pre-maneuver set-up

Chandelles / Lazy Eights:

- Throttle as required
 - Approximately 2300 RPM
 - Airspeed 105 knots
- Pre-maneuver set-up

Steep Spirals

- Pre-maneuver set-up
- Throttle idle
- Airspeed 75 knots

Cessna 182RG Maneuvers

*****For other maneuvers not listed, please refer to the airplane's POH, the Airplane Flying Handbook, the PTS and the Jeppesen Maneuvers Guide.*****

Pre-Maneuver Set-up

- Clearing turns
- Carburetor Heat – As appropriate
- Fuel Selector – Both
- Undercarriage – As appropriate
- Mixture – Rich
- Prop – As appropriate
 - Note to not add prop full forward above 100 knots

Slow Flight and Stalls

Slow Flight / Power-Off Stalls:

- Reduce throttle as appropriate
 - Approximately 13" MP
- Pre-maneuver set-up

Power-On Stalls:

- Reduce throttle as appropriate
 - Approximately 13" MP
- Pre-maneuver set-up
- Increase power to 20" MP/2400RPM

Ground Reference Maneuvers

Rectangular Course / S-Turns / Turns Around a Point / Eights-On-Pylons:

- Throttle as required
 - Approximately 15"MP/2300RPM
 - Airspeed 105 knots (or below Va)
- Pre-maneuver set-up

Performance Maneuvers

Steep Turns / Chandelles / Lazy Eights:

- Throttle as required
 - Approximately 15"MP/2300RPM
 - Airspeed 105 knots (or below Va)
- Pre-maneuver set-up

Steep Spirals

- Pre-maneuver set-up
- Throttle idle
- Airspeed 80 knots

Note: All maneuvers must be performed with consideration given to management of cylinder head temperature and adjustment of cowl flaps.

Piper Arrow Maneuvers

*****For other maneuvers not listed, please refer to the airplane's POH, the Airplane Flying Handbook, the PTS and the Jeppesen Maneuvers Guide.*****

Pre-Maneuver Set-up

- Clearing turns
- Electric fuel pump – As appropriate
- Fuel Selector – Fullest tank
- Undercarriage – As appropriate
- Mixture – Rich
- Prop – As appropriate

Slow Flight and Stalls

Slow Flight / Power-Off Stalls:

- Reduce throttle as appropriate
 - Approximately 12” MP
- Pre-maneuver set-up

Power-On Stalls:

- Reduce throttle as appropriate
 - Approximately 13” MP
- Pre-maneuver set-up
- Increase power to 24” MP/2500RPM

Ground Reference Maneuvers

Rectangular Course / S-Turns / Turns Around a Point / Eights-On-Pylons:

- Throttle as required
 - Approximately 20-23”MP/2300RPM
 - Airspeed 105 knots (or below Va)
- Pre-maneuver set-up

Performance Maneuvers

Steep Turns / Chandelles / Lazy Eights:

- Throttle as required
 - Approximately 20-23”MP/2300RPM
 - Airspeed 105 knots (or below Va)
- Pre-maneuver set-up

Steep Spirals

- Pre-maneuver set-up
- Throttle idle
- Airspeed 90 knots

Beechcraft Duchess Maneuvers

For other maneuvers not listed, please refer to the airplane's POH, the Airplane Flying Handbook, the PTS and the Jeppesen Maneuvers Guide.

Pre-Maneuver Set-up

- Clearing turns
- Electric Fuel Pumps – As appropriate
- Carburetor Heat – As appropriate
- Fuel Selector – On
- Undercarriage – As appropriate
- Mixture – Rich
- Prop – As appropriate

Slow Flight and Stalls

Slow Flight / Power-Off Stalls:

- Reduce throttle as appropriate
 - Approximately 14" MP/2300 RPM
- Pre-maneuver set-up

Power-On Stalls:

- Reduce throttle as appropriate
 - Approximately 13" MP
- Pre-maneuver set-up
- Increase power to 20" MP/2500RPM

Performance Maneuver

Steep Turns

- Throttle as required
 - Approximately --- to --- RPM
 - Airspeed 110 knots
- Pre-maneuver set-up

Notes: Recover from maneuvers by 3000' AGL. Vmc Demo by 5000' AGL. All maneuvers must be performed with consideration given to management of cylinder head temperature and adjustment of cowl flaps.

Multi-Engine Operations

Maneuvering with One Engine Inoperative Vmca Demonstration

- Reduce throttle as appropriate
 - Approximately 11"MP
 - Airspeed above Vsse
- Pre-maneuver set-up
- Throttle (simulated inoperative engine) idle
- Throttle (other engine) – full forward
- Airspeed – reduce approximately 1 knot per second
- Recovery Procedure
 - Reduce power operating engine
 - Lower nose
 - Accelerate to Vy

Drag Demonstration

- Reduce throttle as appropriate
 - Approximately 11"MP/--- RPM
- Pre-maneuver set-up
- Maintain Vyse
 - Maintain specific altitude
 - Note power setting
 - Maintain power setting
 - Undercarriage – down
 - Note performance change
 - Undercarriage – up
 - Flaps – add 10, 20, full
 - Note performance change
 - Flaps – up
 - Propeller – windmill
 - Note performance change
 - Undercarriage – down
 - Flaps – down
 - Cowl flaps –open
 - Note performance change



IFR Procedures

Standard IFR Callouts

Takeoff

Airspeed needle moves from zero	“Airspeed alive”
At rotation speed	“Rotate”
1000' AGL	“Climb check, Climb check complete”

Climbing and Descending

Top of Climb	“Cruise check, Cruise check complete”
Top of Descent	“Descent Check, Descent check complete”
1000' above/below	“1000 feet to go” or “4,000 for 5,000”
500' above/below	“500 feet to go”
100' above/below	“100 feet to go”

Non-Precision Approach

Prior to IAF	Approach brief
When CDI needle becomes active (or) ADF needle within 10°	“Course Alive”
At FAF	“Start descent, Time, Undercarriage, Power/Props, Lights, Speak”
1000' above	“1000 feet to minimums”
500' above	“500 feet to minimums”
200' above	“200 feet to minimums”
100' above	“100 feet to minimums”
At minimums	“Step down minimums” (or) “Minimums”
MAP	“Missed Approach Point, field in sight, landing” (or) “Missed Approach Point, field in sight, missed approach” (or) “Missed Approach Point, no contact, missed approach”



Instrument Approach Procedures

****Approach Briefing** (prior to Initial Approach Fix)

1. The destination airport
2. Type of approach, primary Navaid/frequency
3. Final approach course
4. Landing runway/Runway length
5. Airport elevation/Touchdown Zone Elevation
6. The transition onto the approach (vectors, via an IAF, or transition)
7. Glideslope intercept altitude/Minimum altitude at FAF
8. Final Approach Fix
9. Decision Altitude or Minimum Descent Altitude
10. Missed Approach Point
11. Missed approach procedure/Hold briefing
12. Target airspeeds/Airplane configuration

Non-Precision Approach Example:

We will be doing the VOR/DME approach to runway 21 at Duluth International Airport. The VOR frequency is 112.6 and the final approach course is 197°. Runway 21 length is 5,718 feet and our landing distance is --- feet. Airport elevation is 1,428 feet and the Touchdown Zone Elevation is 1,420 feet. Our initial approach fix will be entering the 15 DME arc on the – radial from the northwest. Once we're established inbound and within 15nm, we can descend down to 3,200 feet. The final approach fix is at 8 DME from the Duluth VOR. Our MDA is 1,860 feet, which is 440 feet AGL, and the Missed Approach Point is 3 DME from the VOR. If we go missed, we will execute a go-around, climbing to 3,800 feet while proceeding to the VOR. Then we will track outbound on the 192 radial to the MIZOU intersection, which is 7 DME from the VOR and hold. We will do a parallel entry. We will shoot the approach at 90 knots and put in 10° of flaps at the initial approach fix. Full flaps will be added once we have the runway in sight prior to 300 feet above ground level once we are below V_{fe}, otherwise we will land with 10° of flaps.

Precision Approach Example:

We will be doing the ILS approach to runway 9 at Duluth International Airport. The localizer frequency is 110.3 and the final approach course is 090°. Runway 9 length is 10,162 feet and our landing distance is --- feet. Airport elevation is 1,428 feet and the Touchdown Zone Elevation is 1,428 feet. We will be getting radar vectors to the final approach course and once we are established inbound we can descend to 3,300 feet. The final approach fix is at glideslope intercept, which should occur just prior to PYKLA intersection at 3,300 feet. Our DA is 1,628 feet, which is 200 feet AGL, and the Missed Approach Point is the DA. If we go missed, we will execute a go-around, climbing to 3,000 feet, then making a climbing left turn to intercept the DLH 017 radial and maintain 4,500 feet. We will proceed to the CHERL intersection, which is 15 DME from the Duluth VOR and hold. We will do a parallel entry. We'll shoot the approach at 90 knots and put in 10° of flaps at the initial approach fix. Full flaps will be added once we have the runway in sight prior to 300 feet above ground level once we are below V_{fe}, otherwise we will land with 10° of flaps.



Non-Precision Approach

1. Prior to IAF (within ____ minutes)
 - a. Establish approach level profile ____ minutes from IAF
 - b. Weather updated, above minimums
 - c. Descent checklist completed
 - d. Approach briefed IAW SOP**

2. IAF outbound
 - a. Before landing checklist completed
 - b. Reference PT distance, proceed ____ NM or ____ minutes

3. FAF inbound
 - a. FAF flow check (TUPLS)
 - b. Establish non-precision descent profile
 - i. *Stabilized approach descent:

4. Runway in sight
 - a. Final flow check completed
 - b. At VDP – stabilized descent to landing
 - i. Do not increase flaps below 300' AGL

5. Missed approach
 - a. Establish missed approach profile
 - b. Report missed to ATC
 - c. 1,000 AGL, climb checklist completed

6. Hold
 - a. See standard procedure

*A stabilized approach is one in which the aircraft is properly configured and maintains a constant airspeed and descent rate as it follows a constant vertical flight path to the touchdown zone.



Precision Approach

1. Prior to IAF (within ____ minutes)
 - a. Establish approach level profile ____ minutes from IAF
 - b. Weather updated, above minimums
 - c. Descent checklist completed
 - d. Approach briefed IAW SOP**
2. IAF outbound
 - a. Before landing checklist completed
 - b. Reference PT distance, proceed ____ NM or ____ minutes
3. Inbound to glideslope intercept
 - a. Calculate descent rate
4. Glideslope intercept inbound
 - a. FAF flow check (TUPLS)
 - b. Establish precision descent profile
 - c. Establish non-precision descent profile
 - i. *Stabilized approach descent:
5. Runway in sight
 - a. Final flow check completed
 - b. Maintain stabilized approach descent until visual acquiring runway environment or DA
 - i. Do not increase flaps below 300' AGL
6. Missed approach
 - a. Establish missed approach profile
 - b. Report missed to ATC
 - c. 1,000 AGL, climb checklist completed
7. Hold
 - a. See standard procedure that follows on page ____



DME Arc

1. Prior to IAF (within ____ minutes)
 - b. Establish approach level profile ____ minutes from IAF
 - c. Weather updated, above minimums
 - d. Descent checklist completed
 - e. Approach briefed IAW SOP**
2. Prior to becoming established on the arc
 - a. Calculate initial heading used to establish aircraft on the arc
 - b. Lead turn onto the arc by ____ NM per ____ knots groundspeed
 - c. Number one CDI set to inbound course
 - d. Number two CDI used for complete the arc
3. Established on the arc
 - a. Twist ten degrees on the OBS turn ten degrees of heading (approximately) (include?)
 - b. Remain within one mile of the specified arc distance
 - c. A specified procedure for arcs with and without a lead radial(?)
4. Established on final approach course
 - a. Refer to precision or non-precision procedure as appropriate

Radar Vectors to Final Approach Course

1. Prior to receiving vectors
 - a. Weather updated, above minimums
 - b. Descent checklist completed
 - c. Approach briefed IAW SOP**
 - d. Determine approximate final vector heading
 - i. (estimate to be within 30° of final approach course) and appropriate distance fix outside of the FAF (minimum 2 NM)
 - e. Determine Minimum Safe Altitude
 - i. Query ATC about vectors below the MSA, keeping in mind Minimum Vectoring Altitudes
2. Upon receiving first vector
 - a. Establish Approach level profile
3. Established on final approach course
 - a. Refer to precision or non-precision approach procedure as appropriate



Holding

1. Prior to hold
 - a. Establish approach level profile, flaps at pilot's discretion
 - b. Hold briefed*
 - c. Holding checklist completed
2. Reaching hold
 - a. Report time and altitude reaching holding fix
 - b. Execute appropriate entry type
3. Established in hold
 - a. Brief plan for next action
 - b. Request longer leg lengths as necessary

***Hold Briefing**

1. Holding fix and means of identification
2. Altitude
3. Entry type
4. Direction of turns
5. Leg length
6. Expect Further Clearance time
7. Action to be taken after hold completion or at EFC time

Example:

We will hold at HUSSK based on HUSSK NDB at 3,000. The entry will be parallel. After the entry turns will be made to the left, and leg lengths will be one minute. Expect Further Clearance time is 20:30, time now 20:21. At or before the EFC we will depart HUSSK inbound for the ILS Runway 31.



Helpful Acronyms

Air Traffic Control Clearances and Compliance

- Contact FSS or the appropriate ATC facility approximately 30 minutes prior to departure to file an IFR flight plan
- Contact the appropriate ATC facility to request clearance prior to taxi/departure
 - IFR clearance acronym
 - Clearance - as filed or a clearance limit
 - Route filed or assigned
 - Altitude filed or assigned
 - Frequency to contact ATC after departure
 - Transponder code
 - Void time (if applicable)
 - Determine if compliance with ATC clearance is possible (if different from what was expected or filed)

Prior to Initial Approach Fix and Approach Briefing

WIRE check (including GLAD M)

Weather - Listen to ASOS/ATIS and copy down. Determine runway to use.

Instruments - Reset Attitude Indicator and Directional Gyro, Set Altimeter, and Check Engine Instruments

Radios - Set Communication Radios, then **GLAD M**

Environment - Inbound course, MDA/DH, Airspeed, time, MAP, etc.)

Setting Nav Radios

Glideslope - Verify not flagged, monitor if needed

Localizer - Tune, Identify, Twist, Set: (Nav 1 and Nav 2 regardless if an actual Localizer is used)

ADF - Tune, Identify, Twist, Set, Monitor continuously if sole means of navigation

DME - Switch to appropriate Navaid or frequency

Marker Beacons - Test and Set

Frequency (set)

Ident (listen to Morse code)

Twist (set OBS)

Set (double check frequency and OBS)



At FAF

STUPLS

Start Down
Time
Undercarriage
Power
Lights
Speak

Crossing Navaid/fix

5 T's

Twist
Time
Turn
Throttle
Talk