SHS Aviation: Unit 2
Airplane Dynamic Controls - Part IV

Name:_____
Date: _____

Takeoff and Landing Procedure:

Directions: Pair up with your "stick buddy" and set up the computer with "Prepar3D" and joystick. Check to be sure the settings are properly situated with the trim, throttle, flaps, roll, yaw and pitch. Work together to set up each Scenario and answer the questions as specifically as possible. Review these instructions WITH the picture I provided.

Runway Heading: _____

1. Set up at Waterbury Oxford (KOXC) on the runway. (Either direction is okay) Airport is 726 feet above sea level.

2. Check your instruments. What is your heading indicator read? _____ this should be the same as the runway number you are lined up facing.

3. Keep your brakes on

   - Lower flaps
   - Power full
   - Release brakes

4. Navigate down the runway straight, watch your airspeed! at 60 kts, rotate and continue to fly straight ahead and climb at 500 – 1000 feet per minute maintaining runway heading. Lower Flaps at 1000 ft. now pause the simulation and determine the "crosswind leg", write it down below. Now un-pause the simulation and maintain this heading until you are at 1700 feet and reduce rpm's to 1800.

Crosswind Leg: _____degrees

5. Now begin your crosswind leg by left banking the airplane 30^0 degrees to a heading that is 90^0 degrees from your original heading. This new heading is _____. (this should match the number above) Pause the simulation and note the "downwind leg", and write in down in the space below. Remain on this leg for 30 seconds.

Downwind Leg: _____degrees

6. After 30 seconds on the crosswind leg begin another 90-degree left turn by banking the plane 30 degrees to the left until you are flying 180 degrees opposite your original heading. This is your downwind leg. What is your heading? _____ (this should match the number above)

7. Look out your left window and you should be able to see the runway. Maintain 1700 feet.

8. Continue to fly the downwind leg until you are halfway down the runway. Now reduce engine speed to 1200 rpm's and allow to your airspeed to slow down until your speed hits the white arc then lower one notch of flaps. Try to maintain altitude so the plane will begin to slow down. When you are 45^0 past the runway, pause the simulation. While paused determine what compass heading the base leg should be and write this in the space below.

Base Leg: _____

9. Un-pause the simulation, and begin a 30^0 left bank (turn) and make descending left turn to enter your base leg. Descend at about a rate of 500 ft/min but you will need to adjust this if necessary. Keep your airspeed less than 80 kts but greater than 65 kts by adjusting the throttle.

10. Put in your second notch of flaps.

11. Your heading on the base leg is _____

12. Continue to descend until you are 45^0 away from the runway. Pause the simulation, while paused determine what compass heading the "Final leg" should be and write this in the space below.

Final Leg: _____

13. Now that you are on the base leg and 45^0 degrees from the final leg, begin a slow descending left turn (bank) of 30^0 degrees to enter the final leg. Stop turning when lined up with the runway.

14. Continue to descend but watch your speed, don't let it drop below 65 kts (adjust the throttle if needed) add the last notch of flaps and add power if needed if your sink rate(descent) is too high.

Landing:

15. Your aim is to land after the Threshold (the white strips across the beginning of the runway)

16. Shut of all power (throttle) once you cross the edge of the runway.

17. Glide till you are just above the runway 20 feet

18. Level the plane off and let it settle on the runway

19. Slowly and gently, use the hand brake to bring the plane to a stop

20. Congratulations, you safely landed the airplane!!

REPEAT:

Check mark how many times you complete these 20 steps successfully. You will be tested on your ability to complete all steps successfully.

1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____

8. _____ 9. _____ 10. _____ 11. _____ 12. _____ 13. _____ 14. _____

Signature that you completed this successfully at least 5 times: _____

Once you complete this, move to the actual simulator to try to fly with a more accurate model of a Cessna cockpit.