



Flight School 7-9 Syllabus

Course Goals

1 Learning to Fly

Students complete training modules similar to those used by professional pilots.

2 Historic Flight Scenarios

Students recreate famous moments in aviation history.

3 Aircraft Types

Students fly airplanes of different sizes, eras, and methods of propulsion, learning the peculiarities of each, and how flight technologies have evolved over time.

4 Becoming a Pilot

Students learn the process through which real pilots train and gain certificates to advance in their career, progressing from a Student to a Private Pilot, then to a Commercial Pilot and potentially an Airline Transport Pilot.

Course Topics

1 Flight Controls

Students learn the layout of an airplane cockpit, becoming familiar with the placement and function of different instruments. Students practice flying using a flight stick interface.

2 Takeoff and Landing

Students practice beginning and ending flights smoothly and safely.

3 Navigation

Students learn principles of navigation to chart flight paths and stay on course.

4 Visual and Instrument Flight

Students fly in different visibility conditions and learn to reliably interpret instrument data.

5 Traffic Pattern

Students learn to communicate with Air Traffic Control and safely share the sky with fellow pilots.

6 Emergency Maneuvers

Students practice responding to dangerous situations including stalls, engine failure, and conducting emergency landings.

7 Geography

Students explore different areas of the world, visiting airports of various sizes and elevations.

8 Weather Systems

Students fly in different weather conditions, and learn the basics of how weather systems form and change.

9 Modding

Students learn to incorporate fan-made content to expand the base simulator experience.

10 Pilot Testing

Students learn the process of becoming a pilot in real life, and take a practice exam for the Private Pilot certificate.

Course Schedule

Day 1

Course Rules and Introduction

Students are introduced to course rules, their classmates, and the instructor.

Training: Basic Controls and Cameras

Students learn the layout of the cockpit, and how to manipulate the in-game camera.

Training: Attitude and Instruments

Students learn the function of instruments and gauges, and practice adjusting their plane's position relative to the horizon.

Presentation: The History and Physics of Flight

Students learn about basic principles of physics related to flight, and are introduced to the functional components of different types of aircraft.

Day 2

Training: Take-Off and Landing

Students practice taking off, climbing, and leveling off at cruising altitude, and landing.

Any Landing You Can Walk Away From: Tips for Safer Descents

Students practice strategies to continue improving their landings.

Landing Challenges

Students practice landing under increasingly different conditions, and receive a score based on their results.

Day 3

Going Pro (The First Step): Becoming a Drone Pilot

Students learn how restricted airspace is classified, the process of becoming certified as a commercial drone operator, and how to register an unmanned aircraft.

Training: Navigation (Visual Flight Rules)

Students learn the principles of navigating using Visual Flight Rules (VFR) in conditions with high visibility.

Training: Instrument Flight Rules

Students learn to navigate using Instrument Flight Rules (IFR) in conditions with low visibility.

Day 4

Wouldn't It Be Livery? - Customizing Your Plane

Students modify the plane's paint job and call number.

On the Wings of Our Dreams: Creating a Flight Plan

Students use the World Map interface to plot flights between real airports.

Puddle Jumping: Short Practice Flight

Students plot and fly their first short flight plan.

Historic Flights: Research

Students research monumental events in aviation history, including technological innovations as well as pivotal moments in exploration and warfare.

Historic Flights: Report

Students share the results of their historical research with the class.

On the Wings of History

Students recreate the historical flight they researched inside Microsoft Flight Simulator.

Day 5

Aviation Communication: The Phonetic Alphabet

Students learn the NATO Phonetic Alphabet, and drill using word games like hangman.

Aviation Communication: Air Traffic Control

Students practice communicating with Air Traffic Control personnel to safely communicate changes to their plane's position and direction.

Training: Bush Pilot

Students practice flying in rustic, isolated environments.

Training: Glider

Students practice flying unpowered aircraft towed by a guide plane.

Day 6

Weather Systems

Students learn about how weather systems are formed, and practice flying in various weather conditions.

Training: Commercial Jets

Students learn to fly airliners like those used by major airlines.

Becoming a Pilot: Learn the Steps

Students are introduced to the process of earning a pilot's license in real life.

40 Years of Flight Simulator

Students explore some "greatest hits" content from throughout the history of the Microsoft Flight Simulator franchise.

Day 7

Mayday! A Modding Emergency

Students learn to add additional content to the base game by incorporating mods.

Emergency Maneuver Challenges

Students practice responding to the failure of various aircraft systems.

Fighter Jets: Training and Challenges

Students aim for speed and accuracy while piloting fighter jets, in challenges inspired by the Top Gun series.

Day 8

Modding is a Piece of Cake: Adding and Testing Custom Content

Students use modding to add new aircraft, landing challenges, and other bonuses to the base game.

Flying with Your Friends: Multiplayer in MFS

Students explore the sky together with their classmates.

Pilot Exam: What to Expect

Students receive resources to review for an end of class pilot exam.

Day 9

Pilot Exam Preparation

Students go over material and example questions they are likely to encounter on a Student Pilot certification exam.

Bush Flights

Students fly long distances through inhospitable territory, keeping an eye on the fuel gauge.

Day 10

Pilot Exam

Students take an exam with questions drawn from real pilot qualification tests.

Exam Review

Students review exam answers as a class and score their pilot certification tests.

Flying Off Into the Sunset

Students explore remaining training modules and landing challenges, having truly earned their wings.

Prepare for Departure

Students uninstall mods and help pack course materials.

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