

# History of Aeronautics

Dr. GUVEN

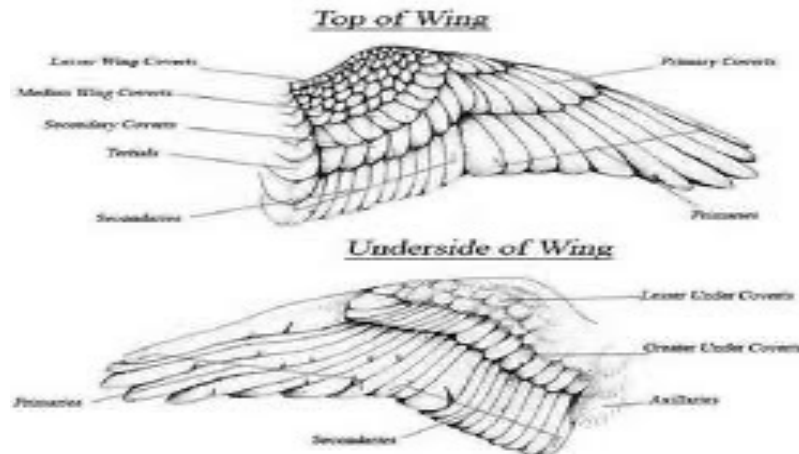
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# The Conceptual of First Flight

- Mankind has always wondered about the possibility of flying for more than 5,000 years.
- The usual mode of flight was thought to be the flapping of the wings much like a bird.
- Even with today's advanced technology it is almost impossible to fly by mimicking a bird.



# Leonarda Da Vinci

- Leonarda Da Vinci was the first real inventor and scientist who looked for ways to make mankind fly.
- His famous design was the ornithopter in 1790 and it was like a basic helicopter design.



# First Flight : The First Balloon

- The first actual flight of mankind was not through a flying machine, but through a balloon.
- Balloons fly through the concept of hot air being lighter than air.
- The first balloon was flown in Paris skies by the Montgolfier Brothers in November 21, 1783.
- It flew for 5 miles and it stayed off the ground for 25 minutes



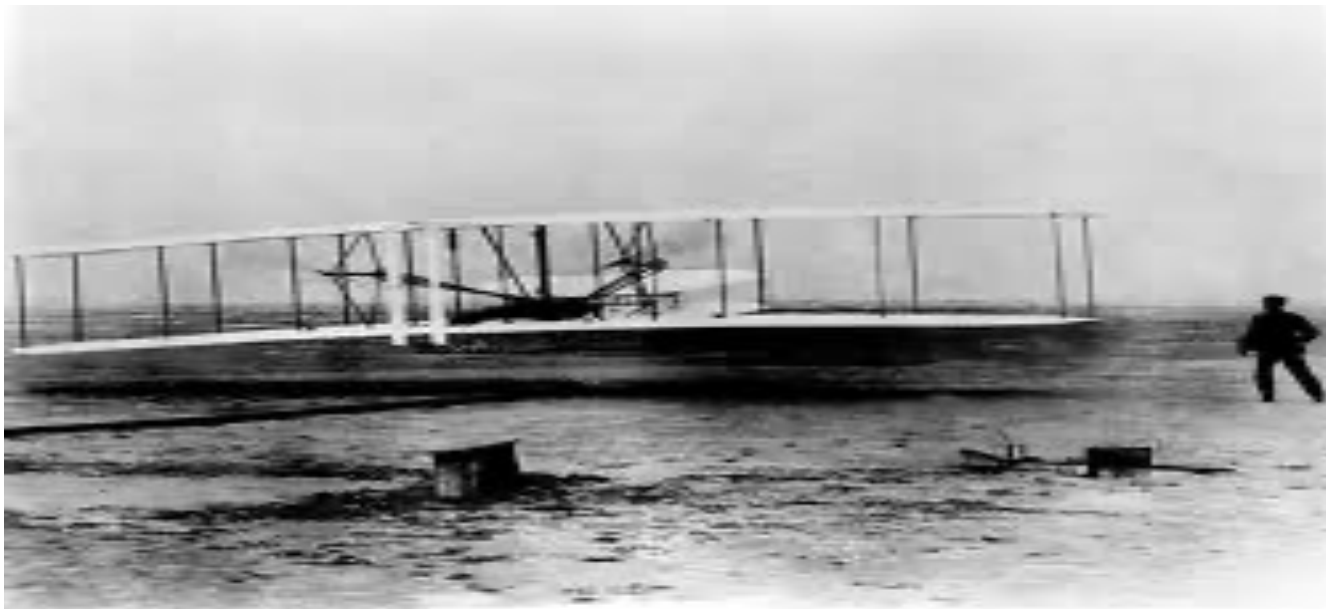
# First Flight : The First Glider



- The first time a human flew with controlled wings was with a glider.
- The first glider flew on 1891 in Germany by Otto Lillienthal.
- Flight Control was performed by the pilot shifting his center of gravity under the glider.

# True Mechanical Flight of Mankind

- The first true mechanical flight of mankind occurred in December 17, 1903.
- The flight occurred at Kitty Hawk, USA by a plane made by the Wright Brothers.
- The plane flew for 12 seconds and landed 120 feet away from where it started.



# Wright Brothers Opened a Whole New Era

- With the flight of the Wright Brothers, it became known that mankind could conquer the skies and defy the law of gravity.
- However, the public did not become instantly aware of the First Flight for a long time.
- The invention of the airplane opened up a new industry of aviation and eventually spaceflight.
- Now with the advancements in aeronautics and astronautics, even the stars have become a possibility in the future.

# The First Flight Over Atlantic

- One of the biggest benchmarks of aviation was crossed when the first nonstop flight across the Atlantic occurred with Charles Lindbergh at the helm of the Spirit of St. Louis in May 21, 1927.





# Aviation Boomed in the 1920's Onwards

- After airplanes became common in the First World War, aviation started to boom in the 1920's and 1930's.
- The foundations of the big airlines such as Pan Am, TWA, Lufthansa, and British Airways was sown at that time.



# Flying Boats

- Because of the limited ability of planes to land on airports in 1920's and 1930's (due to technical constraints as well as unavailability of airfields); many commercial planes were made to land in water. Hence, commercial transport from Europe to North and South America became very common.



# The First Supersonic Flight

- A human being was able to fly faster than the speed of sound for the first time in history in October 14, 1947.
- Until that time, the speed of sound was seen as a psychological barrier that could not be surpassed.
- The first supersonic plane was a Bell X1 flown by Capt. Charles Yeager



# The First Hypersonic Flight

- The first hypersonic flight that was able to go above 5 times the speed of sound was in 1967 with X-15
- They were able to reach Mach 6.72 (means 6.72 times the speed of sound)
- After this achievement, it opened up the way for the space age.



# Modern Aviation

- Now we have commercial jumbo jet planes that can travel 700 miles per hour with over 400 passengers.
- Military jets have surpassed themselves and hypersonic flights have become common occurrence.
- Automatic Flight and Unmanned Flight is the Current Trend in the 21<sup>st</sup> century.

