



# Private Pilot Course Outline

## **PVT #1 Introduction and SMS**

This lesson covers the basic rules and regulations of the Brampton Flying Club, licensing requirements for PPL and RPP, and also covers operational procedures for our Safety Management System.

## **PVT #2 Principles of Flight**

During this session we will discuss airframe construction, forces acting on an aircraft in flight, movements and controls, aircraft stability and flight performance.

**Reference:** From the Ground Up: pages 15 – 33 and Flight Training Manual: pages 3 - 15.

## **PVT #3 Flight Instruments**

This lesson will involve an analysis of atmospheric pressure, the pitot static system, gyroscopic theory and associated instruments. The magnetic compass will also be discussed.

**Reference:** From the Ground Up: pages 33 – 47.

## **PVT #4 Canadian Air Regulations (CARs) and Flight Operations**

Topics to include aerodrome layout, traffic procedures, the Canadian Airspace System, radio wave theory and frequency bands, radio communication facilities and procedures.

**Reference:** From the Ground Up: pages 89 – 106, Flight Training Manual: pages 206 – 209 and RTOC study guide

## **PVT #5 Engines and Aircraft Systems**

Topics covered will include types of combustion engines, the four stroke cycle, engine timing, cooling, lubrication, fuel systems, carburetors, mixture control, exhaust system, ignition system, electrical system, propellers, engine instruments and engine operation considerations.

**Reference:** From the Ground Up: pages 3 – 13, 47 – 83 and Flight Training Manual: pages 40 - 44.

## **PVT #6 Flight Operations: Airmanship and Performance**

During this session we will discuss care of the airplane, weight and balance, factors affecting aircraft performance and performance charts, wake turbulence, and handling flight abnormalities.

**Reference:** From the Ground Up: pages 263 – 298, AIM AIR section, POH

## **PVT #7 Air Law and PSTAR**

The aim of this class is to review rules of the air and procedures. Students are expected to study the AIM references outlined in the PSTAR study guide PRIOR to attending this class. Please come prepared to write the PSTAR exam.

**Reference:** PSTAR study guide, AIM and CARs

## **PVT #8 Meteorology I: Basic Theory**

In this class we will discuss the atmosphere, clouds, pressure, winds, humidity, temperature and stability.

**Reference:** From the Ground Up: pages 123 – 140, Royal Canadian Air Force Weather Manual

## **PVT #9 Meteorology II: Air Masses, Fronts and Hazards**

Topics will include air masses, fronts, precipitation, fog types, thunderstorms, icing and turbulence.

**Reference:** From the Ground Up: pages 140 – 163, Royal Canadian Air Force Weather Manual

## **PVT #10 Meteorology III: Weather Interpretation**

This lesson will involve a look at available sources of weather data, decoding and analyzing weather observations and forecasts such as METARs, TAFs, FDs, and GFAs.

**Reference:** From the Ground Up: pages 163 – 177, AIM MET section, Aviation Weather Services Guide

## **PVT #11 Flight Computer**

During this session we will discuss how to use your E6B flight computer. Time, speed and distance, fuel consumption, fuel burn, true altitude and wind correction calculations plus many more.

**Reference:** Flight Computer (E6B/CX-2/CX-3) User Manual

**PVT #12 Navigation I: Basic Theory**

During this session we will discuss latitude and longitude, the earth's magnetism and aeronautical charts.

**Reference:** From the Ground Up: pages 176 – 192,

**PVT #13 Navigation II: Introduction to Flight Planning**

This is a practical class involving navigation problems as well as preparing the chart and flight log for a cross country trip: Brampton to Collingwood to Muskoka and return via the same route. By the end of the class, initial preparation for the trip is completed including topics such as extracting info from the CFS, preparing the chart, checking NOTAMs and filling up the Nav log without any weather info.

**Reference:** From the Ground Up: pages 192 – 208.

**PVT #14 Navigation III: More Flight Planning**

Continuation of PVT #12 with focus on getting weather info, using the flight computer to come up with navigational and performance figures, filling and using en route log, filling out an ICAO flight plan form and role of FSS. This class relies on the skills learnt during the previous two Nav classes.

**Reference:** VNC, POH, CFS and Flight Computer (E6B/CX-2/CX-3) User Manual

**PVT #15 Radio Aids to Navigation**

In this class we will discuss radio wave theory, the theory of operation, application of various radio aids to navigation including VORs, NDBs & ADFs, DME, VORTACs, TACANs, GPS, radar, transponders and ELTs.

**Reference:** From the Ground Up: pages 231 – 258.

**PVT #16 Aviation Physiology, Human Factors and Pilot Decision Making**

During this session we will discuss medical factors affecting pilots such as; hypoxia, carbon monoxide poisoning, hyperventilation, decompression sickness, sensory illusions, alcohol, drugs, blood donation, fatigue, pregnancy, nutrition, stress and physical fitness. Also this class analyzes the pilot decision making process and other related issues such as pilot attitude, the "DECIDE" process, human factors, and air safety.

**Reference:** From the Ground Up: pages 309 – 323 and AIM AIR section

**AIM** = Aeronautical Information Manual

**CARs** = Canadian Aviation Regulations

**CFS** = Canadian Flight Supplement

**POH** = Pilot Operating Handbook

**PSTAR** = Student Pilot Permit Exam

**RTOC** = Radio Telephone Operator's Certificate study guide

**VNC** = VFR Navigation Chart

