МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

НАЦІОНАЛЬНИЙ АВІАЦІЙНИЙ УНІВЕРСИТЕТ

Факультет лінгвістики та соціальних комунікацій

Кафедра англійської філології і перекладу

НАВЧАЛЬНО-МЕТОДИЧНІ РЕКОМЕНДАЦІЇ ДЛЯ СТУДЕНТІВ 1 КУРСУ ЗАОЧНОЇ ФОРМИ НАВЧАННЯ

з дисципліни «Переклад в авіаційній галузі»

Галузь знань	03 Гуманітарні науки
Спеціальність:	035 Філологія
Спеціалізація:	035.041 Германські мови та літератури (переклад включно), перша - англійська
ОПП:	Германські мови та літератури (переклад включно), перша - англійська

Укладач:
ст. викладач Пилипчук М.Л.

Навчальна дисципліна «Переклад в авіаційній галузі» є практичною основою сукупності знань та вмінь, що формують профіль фахівця в галузі філології, зокрема, перекладу.

Метою викладання дисципліни є розвиток у студентів умінь та навичок аналізу та двостороннього перекладу науково-технічної та юридичної літератури авіаційного спрямування.

Завданнями вивчення навчальної дисципліни є:

- вдосконалення практичних навичок адекватного перекладу фахової авіаційної літератури з англійської на українську мову та навпаки;
- вивчення термінологічної лексики авіаційної галузі;
- уміння застосовувати стилістичні, граматичні та лексичні перекладацькі трансформації у процесі перекладу авіаційної літератури.

У результаті вивчення навчальної дисципліни студент повинен набути наступні компетентності:

- здатність спілкуватися державною мовою як усно, так і письмово;
- володіння системою знань, умінь та навичок, необхідних для здійснення перекладацької діяльності;
- здатність вільно користуватися базовою авіаційною, юридичною, політичною та іншою спеціальною термінологією в перекладацькій діяльності.

Самостійна робота студента є основним видом засвоєння навчального матеріалу у вільний від аудиторних занять час. Зміст СРС над конкретною дисципліною визначається робочою навчальною програмою з цієї дисципліни, навчально-методичними матеріалами, завданнями та вказівками викладача.

З навчальної дисципліни «Переклад в авіаційній галузі» самостійна робота студентів передбачає:

- опанування матеріалу практичних занять;
- самостійне вивчення теоретичних питань програми, що винесені на самостійне вивчення;
- перегляд рекомендованих відеоматеріалів з тематики дисципліни;
- підготовку до написання домашньої та підсумкової семестрової контрольної роботи.

Система контролю й оцінювання знань, умінь та навичок студентів з навчальної дисципліни складається з поточного та підсумкового контролю.

- Поточний контроль передбачає перевірку та оцінювання знань студентів у формі домашньої контрольної роботи.
- Підсумковий контроль здійснюється у формі підсумкової семестрової контрольної роботи після вивчення курсу.

Завдання на домашню контрольну роботу

Домашня контрольна робота (ДКР) виконується студентами в письмовому вигляді та розміщується у Google Classroom (в умовах онлайн-навчання). Кожен студент виконує завдання ДКР, залежно від обраного ним рівня складності.

Шкала оцінювання ДКР

Рейтингова оцінка в балах	Оцінка за національною шкалою
Виконання та захист контрольної роботи	
36-40	Відмінно
30-35	Добре
24-29	Задовільно
Менше 24	Незадовільно

На оцінку **«задовільно»** студент виконує **якісний** письмовий переклад галузевих текстів, виписує підкреслені слова з тексту з перекладом у глосарій та робить письмово вправи після кожного тексту. **Не якісний машинний переклад з граматичними помилками перевірятися та оцінюватися не буде!**

На оцінку **«добре»** студент виконує вимогу для оцінки «задовільно» , орієнтується в теоретичному матеріалі по тексту та володіє термінологією, тобто знає переклад усіх підкреслених слів у текстах.

На оцінку **«відмінно»** студент виконує усі вищезазначені вимоги, та робить усний переклад відео, що додається до завдання. Переклад відео виконується послідовно, слова спікера повинно також бути чутно. Переклад відео завантажується аудіофайлом бажано формату mp3 або m4a та додається до завдання у Google Classroom.

Посилання на відео:

https://www.youtube.com/watch?v=swuKJhY1u0s&t=24s

(зразок оформлення роботи)

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ДОМАШНЯ КОНТРОЛЬНА РОБОТА

з дисципліни:

«ПЕРЕКЛАД В АВІАЦІЙНІЙ ГАЛУЗІ»

ВИКОНАВ:

студент ___курсу ____ групи

Спеціальність: 035 «Філологія»

ІВАНЕНКО ІВАН ІВАНОВИЧ

ПЕРЕВІРИЛА:

старший викладач кафедри

англійської філології і перекладу

ПИЛИПЧУК М.Л.

Київ

Завдання ДКР

Unit V.1. Air Safety

Text 1.

Read and translate the following text into Ukrainian.

Air safety is a term encompassing the theory, investigation and categorization of flight failures, and the prevention of such failures through regulation, education and training. It can also be applied in the context of campaigns that inform the public as to the safety of air travel.

During the 1920s, the first laws were passed in the USA to regulate civil aviation. Of particular significance was the Air Commerce Act 1926, which required pilots and aircraft to be examined and licensed, for accidents to be properly investigated, and for the establishment of safety rules and navigation aids, under the Aeronautics Branch of the Department of Commerce.

Despite this, in 1926 and 1927 there were a total of 24 fatal commercial airline crashes, a further 16 in 1928, and 51 in 1929 (killing 61 people), which remains the worst year on record at an accident rate of about 1 for every 1,000,000 miles (1,600,000 km) flown. Based on the current numbers flying, this would equate to 7,000 fatal incidents per year.

The fatal incident rate has declined steadily ever since, and, since 1997 the number of fatal air accidents has been no more than 1 for every 2,000,000,000 person-miles flown (e.g., 100 people flying a plane for 1,000 miles (1,600 km) counts as 100,000 person-miles, making it comparable with methods of transportation with different numbers of passengers, such as one person driving a car for 100,000 miles (160,000 km), which is also 100,000 person-miles), making it one of the safest modes of transportation, as measured by distance travelled.

A disproportionate number of all U.S. aircraft crashes occur in Alaska, largely as a result of severe weather conditions. Between 1990-2006 there were 1441 commuter and air taxi crashes in the U.S. of which 373 (26%) were fatal, resulting in 1063 deaths (142 occupational pilot deaths). Alaska accounted for 513 (36%) of the total U.S. crashes.

Another aspect of safety is protection from attack currently known as Security (as the ISO definition of safety encompasses non-intentional (safety_safety) and intentional (safety_security) causes of harm or property damage). The terrorist attacks of 2001 are not counted as accidents. However, even if they were counted as accidents they would have added only about 2 deaths per 2,000,000,000 person-miles. Only 2 months later, American Airlines Flight 587 crashed in Queens, NY, killing 256 people, including 5 on the ground, causing 2001 to show a very high fatality rate. Even so, the rate that year including the attacks (estimated here to be about 4 deaths per 1,000,000,000 person-miles), is safe compared to some other forms of transport, if measured by distance travelled.

Safety improvements have resulted from improved aircraft design, engineering and maintenance, the evolution of navigation aids, and safety protocols and procedures.

It is often reported that air travel is the safest in terms of deaths per passenger mile. The National Transportation Safety Board (2006) reports 1.3 deaths per hundred million vehicle miles for travel by car, and 1.7 deaths per hundred million vehicle miles for travel by air. These are not passenger miles. If an airplane has 100 passengers, then the passenger miles are 100 times higher, making the risk 100 times lower. The number of deaths per passenger mile on commercial airlines between 1995 and 2000 is about 3 deaths per 10 billion passenger miles. One of the first navigation aids to be introduced (in the USA in the late 1920s) was airfield lighting to assist pilots to make landings in poor weather or after dark. The Precision Approach Path Indicator was developed from this in the 1930s, indicating to the pilot the angle of descent to the airfield. This later became adopted internationally through the standards of the International Civil Aviation Organization (ICAO).

In 1929 Jimmy Doolittle developed instrument flight.

With the spread of radio technology, several experimental radio based navigation aids were developed from the late 1920s onwards. These were most successfully used in conjunction with instruments in the cockpit in the form of Instrument landing systems (ILS), first used by a scheduled flight to make a landing in a snowstorm at Pittsburgh in 1938. A form of ILS was adopted by the ICAO for international use in 1949.

Following the development of radar in World War II, it was deployed as a landing aid for civil aviation in the form of Ground-controlled approach (GCA) systems, joined in 1948 by distance measuring equipment (DME), and in the 1950s by airport surveillance radar as an aid to air traffic control. VHF omnidirectional range (VOR) stations became the predominate means of route navigation during the

1960s, superseding the low frequency radio ranges and the Non-directional beacon (NDB). The ground based VOR stations were often co-located with DME transmitters and then labelled as VOR-DME stations on navigation charts. VOR-TAC stations, which combined VOR and TACAN features (military TACtical Air Navigation) — the latter including both a DME distance feature and a separate TACAN azimuth feature, which provides military pilots data similar to the civilian VOR, were also used in that new system. With the proper receiving equipment in the aircraft, pilots could know their radials in degrees to/from the VOR station, as well as the slant range distance to/from, if the station was co-located with DME or TACAN.

All of the ground-based navigation aids are being supplemented by satellite-based aids like Global Positioning System (GPS), which make it possible for aircrews to know their position with great precision anywhere in the world. With the arrival of Wide Area Augmentation System (WAAS), GPS navigation has become accurate enough for vertical (altitude) as well as horizontal use, and is being used increasingly for instrument approaches as well as en-route navigation. However, since the GPS constellation is a single point of failure that can be switched off by the U.S. military in time of crisis, on-board Inertial Navigation System (INS) or ground-based navigation aids are still required for backup.

Some major safety devices now required in commercial aircraft involve:

- Evacuation slides – aid rapid passenger exit from an aircraft in an emergency situation.
- Advanced avionics – computerized auto-recovery and alert systems.
- Turbine engines – durability and failure containment improvements
- Landing gear – that can be lowered even after loss of power and hydraulics.

When measured on a passenger-distance calculation, air travel is the safest form of transportation available: these figures are the ones mentioned by the air industry when quoting statistics on air safety. A typical statement is this one by the BBC: "UK airline operations are among the safest anywhere. When compared against all other modes of transport on a fatality per mile basis air transport is the safest – six times safer than travelling by car and twice as safe as rail."

However, when measured by fatalities per person transported, buses are the safest form of transportation and the number of air travel fatalities per person are surpassed only by bicycles and motorcycles. This statistic is the one used by the insurance industry when calculating insurance rates for air travel.

For every billion kilometres travelled, trains have a fatality rate 12 times larger than air travel, while automobiles have a fatality rate 62 times larger. On the other hand, for every billion journeys, buses are the safest form of transportation. By the last measure air transportation is three times more dangerous than car transportation and almost 30 times more dangerous than bus.

A 2007 study by Popular Mechanics found that passengers sitting at the back of a plane are 40% more likely to survive a crash than those sitting in the front, although this article also quotes Boeing, the FAA and a website on aircraft safety, all claiming that there is no safest seat. The article studied 20 crashes, not taking in account the developments in safety after those accidents. However, a flight data recorder is usually mounted in the aircraft's empennage (tail section), where it is more likely to survive a severe crash.

Over 95% of people in U.S. plane crashes between 1983 and 2000 survived.

From *Wiki*

Exercise 1. Say whether the following statements are true or false. Correct false statements.

1. When measured on a passenger-distance calculation, air travel is the safest form of transportation available
2. The fatal incident rate has declined steadily ever since, and, since 1997 the number of fatal air accidents has been no more than 1 for every 2,000,000,000 person-miles flown.
3. All of the ground-based navigation aids are being supplemented by satellite-based aids like Global Positioning System (GPS), which make it possible for aircrews to know their position with great precision anywhere in the world.
4. GPS navigation is not accurate at all for vertical (altitude) as well as horizontal use, and is being used increasingly for instrument approaches as well as en-route navigation.
5. For every billion kilometres travelled, trains have a fatality rate 12 times larger than air travel, while automobiles have a fatality rate 62 times larger.
6. A flight data recorder is usually mounted in the aircraft's cockpit, where it is more likely to survive a severe crash.

Exercise 2. Choose the most appropriate translation if any. Explain your choice.

1. Air safety

a) авіа безпечність;
b) безпека польотів;
c) авіаційна безпека;
d) безпечна авіація.

2. Advanced avionics

a) просунута авіоніка;
b) новітня авіоніка;
c) сучасна авіоніка;
d) сучасне авіаційне електронне обладнання.

3. Passenger-distance calculation

a) розрахунок відстані на кількість пасажирів;
b) пасажиро-дистантні підрахунки;
c) розрахунок пасажировідстані;
d) розрахунок пасажирокілометрів.

4. Insurance rate

a) розмір страхової премії;
b) прискорення страхових виплат;
c) швидкість страхування;
d) виплата страховки.

5. Ground-based navigation aids

a) помічники наземного базування;
b) допомога у наземному обслуговуванні;
c) наземні навігаційні засоби;
d) допомога у наземній навігації.

6. *Flight data recorder*

a) записувач польотних даних;
b) реєстратор польотної інформації;
c) рекодер даних польоту;
d) журнал запису польотної інформації.

7. Instrument approach

a) інструментальне наближення;
b) наближення з використанням приладів;
c) захід на посадку по приладах;
d) посадка по приладах.

8. Fatality

a) доля;
b) нещасний випадок зі смертельним кінцем;
c) жертва;
d) нещасний випадок.

9. Global positioning system

a) глобальна система місцезнаходження;
b) система глобального знаходження;
c) глобальна позиційна система;
d) система знаходження місцеположення на глобусі.

10. Precision approach path indicator

a) вказівник траєкторії точного заходу на посадку;
b) показчик точного заходу на посадку по траєкторії;
c) траєкторія заходу на посадку з використанням вказівника;
d) вказівник точної траєкторії заходу на посадку.

Exercise 3. Write the correct form of the word in brackets and complete the sentences.

1. In 1926 and 1927 there were a total of 24 fatal (commerce) airline crashes.
2. (Safe) improvements have resulted from improved aircraft design, engineering and maintenance, the evolution of navigation aids, and safety protocols and procedures.

3. A (disproportion) number of all U.S. aircraft crashes occur in Alaska, largely as a result of severe weather conditions.

4. UK airline operations are among the (safe) anywhere.

5. For every billion kilometres (travel), trains have a fatality rate 12 times larger than air travel, while automobiles have a fatality rate 62 times larger.

6. When (measure) on a passenger-distance calculation, air travel is the safest form of transportation available.

Exercise 4. Fill in the correct abbreviation (from the box below).

DME, NDB, INS, VOR-DME, WAAS, GPS, VOR

1. _____ makes it possible for aircrews to know their position with great precision anywhere in the world.

2. With the arrival of _____, GPS navigation has become accurate enough for vertical (altitude) as well as horizontal use, and is being used increasingly for instrument approaches as well as en-route navigation.

3. However, since the GPS constellation is a single point of failure that can be switched off by the U.S. military in time of crisis, on-board _____ or ground-based navigation aids are still required for backup.

4. _____ stations became the predominate means of route navigation during the 1960s, superseding the low frequency radio ranges and the _____.

5. The ground based VOR stations were often co-located with _____ transmitters and then labelled as _____ stations on navigation charts.

Exercise 5. Translate the text below into English.

Проблема безпеки польотів й особливості структури й змісту теоретичних дисциплін розглядалися Міжнародною організацією цивільної авіації.

Міністерству цивільної авіації була дана вказівка всім льотним навчальним закладам про необхідність підвищення ефективності теоретичної підготовки курсантів льотних навчальних закладів. Цим документом пропонувалося всім льотним навчальним закладам забороняти допуск до реального льотного навчання курсантів, що мають оцінку нижче 4 балів.

На фоні значної масштабності організації й психолого-педагогічних умов підвищення ефективності спеціальної теоретичної підготовки в 1982 році було ухвалене рішення про створення у всіх льотних навчальних закладах (незалежно від кваліфікаційного рівня) кафедр безпеки польотів, які акумулювали й інтегрували б різні і у той же час важливі для безпеки польотів дисципліни.

From *http://www.lib.ua-ru.net/*

Unit 2. Aviation Safety

Factors influencing aviation safety

A pilot might fly the plane in an accident-prone manner when misinformed by a printed document (manual, map etc.), by reacting to a faulty instrument or indicator (either in cockpit or on ground) or by following inaccurate instructions or information from flight or ground control. Lack of information by the control tower, or delayed instructions, are major factors contributing to accidents.

Boeing studies have shown that airliners are struck by lightning on average of twice per year. While the "flash and bang" is startling to the passengers and crew, aircraft are able to withstand normal lightning strikes.

The dangers of more powerful positive lightning were not understood until the destruction of a glider in 1999. It has since been suggested that positive lightning may have caused the crash of Pan Am Flight 214 in 1963. At that time aircraft were not designed to withstand such strikes, since their existence was unknown at the time standards were set. The 1985 standard in force at the time of the glider crash, Advisory Circular AC 20-53A, was replaced by Advisory Circular AC 20-53B in 2006, however it is unclear whether adequate protection against positive lighting was incorporated.

The effects of normal lightning on traditional metal-covered aircraft are well understood and serious damage from a lightning strike on an airplane is rare. However, as more and more aircraft, like the upcoming Boeing 787, whose whole exterior is made of non-conducting composite materials take to the skies, additional design effort and testing must be made before certification authorities will permit these aircraft in commercial service.

Snowy and icy conditions are frequent contributors to airline accidents. The December 8, 2005 accident where Southwest Airlines Flight 1248 slid off the end of the runway in heavy snow conditions is just one of many examples. Just as on a road, ice and snow buildup can make braking and steering difficult or impossible.

The icing of wings is another problem and measures have been developed to combat it. Even a small amount of ice or coarse frost can greatly decrease the ability of a wing to develop lift. This could prevent an aircraft from taking off. If ice builds up during flight the result can be catastrophic as evidenced by the crash of American Eagle Flight 4184 (an ATR 72 aircraft) near Roselawn, Indiana on October 31, 1994, killing 68, or Air Florida Flight 90.

Airlines and airports ensure that aircraft are properly de-iced before take-off whenever the weather threatens to create icing conditions. Modern airliners are designed to prevent ice buildup on wings, engines, and tails (empennage) by either routing heated air from jet engines through the leading edges of the wing, tail, and inlets, or on slower aircraft, by use of inflatable rubber "boots" that expand and break off any accumulated ice.

Finally, airline dispatch offices keep watch on weather along the routes of their flights, helping the pilots avoid the worst of in-flight icing conditions. Pilots can also be equipped with an ice detector in order to leave icy areas they have flown into.

Although aircraft are now designed to fly even after the failure of one or more aircraft engines, the failure of the second engine on one side for example is obviously serious. Losing all engine power is even more serious, as illustrated by the 1970 Dominicana DC-9 air disaster, when fuel contamination caused the failure of both engines. To have an emergency landing site is then very important.

In the 1983 Gimli Glider incident, an Air Canada flight suffered fuel exhaustion during cruise flight, forcing the pilot to glide the plane to an emergency dead-stick landing. The automatic deployment of the ram air turbine maintained the necessary hydraulic pressure to the flight controls, so that the pilot was able to land with only a minimal amount of damage to the plane, and minor (evacuation) injuries to a few passengers.

The ultimate form of engine failure, physical separation, occurred in 1979 when a complete engine detached from American Airlines Flight 191, causing damage to the aircraft and loss of control.

Metal fatigue has caused failure either of the engine or of the aircraft body.

Examples: (1) the January 8, 1989 Kegworth air disaster; (2) De Havilland Comets accidents in 1953 and 1954; (3) Aloha Airlines Flight 243 in 1988.

Now that the subject is better understood, rigorous inspection and non-destructive testing procedures are in place.

Composite materials consist of layers of fibres embedded in a resin matrix. In some cases, especially when subjected to cyclic stress, the fibres may tear off the matrix, the layers of the material then separate from each other – a process called delamination, and form a mica-like structure which then falls apart. As

the failure develops inside the material, nothing is shown on the surface; instrument methods (often ultrasound-based) have to be used to detect such a material failure.

Aircraft have developed delamination problems, but most were discovered before they caused a catastrophic failure. Delamination risk is as old as composite material. Even in the 1940s, several Yakovlev Yak-9s experienced delamination of plywood in their construction.

Stalling an aircraft (increasing the angle of attack to a point at which the wings fail to produce enough lift), can be dangerous and can result in a crash unless the pilot reacts in the proper manner. Upon entering a stall, the pilot will need an adequate altitude buffer to regain control, reduce the angle of attack to a point where the boundary layer reattaches to the wing, and airspeed is brought up to where level flight can resume. Stalls are most dangerous at low altitudes, which occur during takeoff and landing.

Devices have been developed to warn the pilot when the plane's speed is coming close to the stall speed. These include stall warning horns (now standard on virtually all powered aircraft), stick shakers and voice warnings. Most stalls are a result of the pilot allowing the plane to go too slow for the particular weight and configuration at the time. However, because flow separation (stall) is purely a function of angle of attack, most aircraft can be pushed hard enough to cause a stall even at high speeds (those that can't simply lack the control authority to change the angle of attack enough at speed to induce a stall).

Safety regulations control aircraft materials and the requirements for automated fire safety systems. Usually these requirements take the form of required tests. The tests measure flammability and the toxicity of smoke. When the tests fail, they fail on a prototype in an engineering laboratory, rather than in an aircraft.

Fire on board the aircraft, and more especially the toxic smoke generated, have been the cause of accidents. An electrical fire on Air Canada Flight 797 in 1983 caused the deaths of 23 of the 46 passengers, resulting in the introduction of floor level lighting to assist people to evacuate a smoke-filled aircraft. Two years later a fire on the runway caused the loss of 55 lives, 48 from the effects of incapacitating and subsequently lethal toxic gas and smoke, in the 1985 British Airtours Flight 28M. That accident raised serious concerns relating to survivability, something that prior to 1985 had not been studied in such detail. The swift incursion of the fire into the fuselage and the layout of the aircraft impaired passengers' ability to evacuate, with areas such as the forward galley area becoming a bottle-neck for escaping passengers, with some dying very close to the exits. A large amount of research into evacuation and cabin and seating layouts was carried at Cranfield Institute to try to measure what makes a good evacuation route, which led to the seat layout by overwing exits being changed by mandate and the examination of evacuation requirements relating to the design of galley areas. The use of smoke hoods or misting systems were also examined although both were rejected.

The cargo holds of most airliners are equipped with "fire bottles" (essentially remote-controlled fire extinguishers) to combat a fire that might occur in the baggage holds, below the passenger cabin. In May 1996 ValuJet Airlines Flight 592 crashed into the Florida Everglades a few minutes after takeoff after a fire broke out in the forward cargo hold. All 110 aboard were killed.

At one time fire fighting foam paths were laid down before an emergency landing, but the practice was considered only marginally effective, and concerns about the depletion of fire fighting capability due to pre-foaming led the United States FAA to withdraw its recommendation in 1987.

Bird strike is an aviation term for a collision between a bird and an aircraft. It is a common threat to aircraft safety and has caused a number of fatal accidents. In 1988 an Ethiopian Airlines Boeing 737 sucked pigeons into both engines during take-off and then crashed in an attempt to return to the Bahir Dar airport; of the 104 people aboard, 35 died and 21 were injured. In another incident in 1995, a Dassault Falcon 20 crashed at a Paris airport during an emergency landing attempt after sucking lapwings into an engine, which caused an engine failure and a fire in the airplane fuselage; all 10 people on board were killed. Canada Geese were ingested into the engines of US Airways 1549 causing the engines to fail on the Airbus A320 that crash landed onto the Hudson River.

Modern jet engines have the capability of surviving an ingestion of a bird. Small fast planes, such as military jet fighters, are at higher risk than heavy multi-engine ones. This is due to the fact that the fan of a high-bypass turbofan engine, typical on transport aircraft, acts as a centrifugal separator to force ingested materials (birds, ice, etc.) to the outside of the fan's disc. As a result, such materials go through the relatively unobstructed bypass duct, rather than through the core of the engine, which contains the smaller and more delicate compressor blades. Military aircraft designed for high-speed flight typically have pure turbojet, or low-bypass turbofan engines, increasing the risk that ingested materials will get into the core of the engine to cause damage.

The highest risk of the bird strike is during the takeoff and landing, in low altitudes, which is in the vicinity of the airports. Some airports use active countermeasures, ranging from a person with a shotgun through recorded sounds of predators to employing falconers. Poisonous grass can be planted that is not palatable to birds, nor to insects that attract insectivorous birds. Passive countermeasures involve sensible land-use management, avoiding conditions attracting flocks of birds to the area (e.g. landfills). Another tactic found effective is to let the grass at the airfield grow taller (approximately 12 inches (30 centimetres)) as some species of birds won't land if they cannot see one another.

Bird strike can also break windshields and wound the pilot.

Exercise 1. Match the word to the most appropriate translation.

1. *in an accident-prone manner*

a. небезпечним шляхом;
b. неправильним чином;
c. у небезпечних умовах;
d. у нещасній манері.

2. *positive lightning*

a. позитивна блискавка;
b. позитивно-заряджена блискавка;
c. правильне освітлення;
d. безперебійний спалах.

3. *traditional metal-covered aircraft*

a. традиційний метало вкритий літак;
b. літак зі звичайним металевим покриттям;
c. звичайний літак, вкритий металом;
d. класичне металеве покриття літака.

4. *icy conditions*

a. умови надзвичайного холоду;
b. льодисті обставини;
c. ожеледь;
d. байдужі умови.

Exercise 2. Match the words in column A with a word in column B in order to make an appropriate word-combinations.

A	B
1. accident-prone	1. horns
2. fuel	2. frost
3. in-flight	3. instructions
4. engineering	4. holds
5. coarse	5. stress
6. emergency	6. landing
7. warning	7. exhaustion
8. cyclic	8. manner
9. inaccurate	9. laboratory
10. cargo	10. icing conditions

Exercise 3. Translate into Ukrainian.

Bird strikes

A bird strike is a collision between an airborne animal (usually a bird or bat) and a man-made vehicle, especially aircraft. The term is also used for bird deaths resulting from collisions with man-made structures such as power lines, towers and wind turbines. A bug strike is an impairment of an aircraft or aviator by an airborne insect.

Bird strikes are a significant threat to flight safety, and have caused a number of accidents with human casualties. Major accidents involving civil aircraft are quite low and it has been estimated that there is only about one accident resulting in human death in one billion flying hours. The majority of bird strikes (65%) cause little damage to the aircraft; however, the collision is usually fatal to the bird.

Most accidents occur when the bird hits the windscreen or flies into the engines. These cause annual damages that have been estimated at $400 million within the United States of America alone and up to $1.2 billion to commercial aircraft worldwide.

From *Wiki*

Exercise 4. Underline the correct word or word combinations in the following sentences.

1. Lack of information by the (inaccurate instructions | control tower), or delayed instructions, are major factors contributing to accidents.

2. The dangers of more powerful (positive lightning | faulty instrument) were not understood until the destruction of a glider in 1999.

3. The (icing | de-icing) of wings is another problem and measures have been developed to combat it.

4. Even in the 1940s, several Yakovlev Yak-9s experienced delamination of (wood | chip board | plywood) in their construction.

5. The use of (lacunas or misting systems |smoke hoods) were examined although both were rejected.

6. Bird strike is an aviation term for a (crash | collision) between a bird and an aircraft. It is a common threat to aircraft safety and has caused a number of fatal accidents.

7. An electrical fire on Air Canada Flight 797 in 1983 caused the deaths of 23 of the 46 passengers, resulting in the introduction of (floor level lighting | evacuation) route to assist people to evacuate a (survivability | smoke-filled aircraft).

8. The tests measure (flammability | fire bottles) and the (toxicity | survivability) of smoke.

9. Poisonous grass can be planted that is not palatable to birds, nor to insects that attract (high-bypass | insectivorous) birds.

10. As the failure develops inside the material, nothing is shown on the surface; (cyclic stress | instrument methods), often (de-iced | ultrasound-based), have to be used to detect such a material failure.

Exercise 5. Fill in the correct word from the box below.

Positive lightning; voice warnings; coarse frost; expand and break off any accumulated ice; catastrophic; warning horns; low-bypass turbofan engines; inflight icing conditions; airline dispatch offices; stalling; floor level lighting; smoke-filled aircraft; non-conducting composite materials; stick shakers; inlets; ice buildup; "boots"

1. The dangers of more powerful _____ were not understood until the destruction of a glider in 1999.

2.However, as more and more aircraft, like the upcoming Boeing 787, whose whole exterior is made of _____ take to the skies, additional design effort and testing must be made before certification authorities will permit these aircraft in commercial service.

3. Even a small amount of ice or _____ can greatly decrease the ability of a wing to develop lift. This could prevent an aircraft from taking off.

4. If ice builds up during flight the result can be _____as evidenced by the crash of American Eagle Flight 4184 (an ATR 72 aircraft) near Roselawn, Indiana on October 31, 1994, killing 68, or Air Florida Flight 90.

5. Finally, _____ keep watch on weather along the routes of their flights, helping the pilots avoid the worst of _____.

6. Modern airliners are designed to prevent _____ on wings, engines, and tails (empennage) by either routing heated air from jet engines through the leading edges of the wing, tail, and _____, or on slower aircraft, by use of inflatable rubber _____ that _____.

7. An electrical fire on Air Canada Flight 797 in 1983 caused the deaths of 23 of the 46 passengers, resulting in the introduction of _____ to assist people to evacuate a _____.

8.These include stall _____ (now standard on virtually all powered aircraft), _____ and _____.

9. Military aircraft designed for high-speed flight typically have pure turbojet, or_____, increasing the risk that ingested materials will get into the core of the engine to cause damage.

10._____ an aircraft (increasing the angle of attack to a point at which the wings fail to produce enough lift), can be dangerous and can result in a crash unless the pilot reacts in the proper manner.

Unit 3. Aviation Accidents

Text 1.

Read and translate the following text into Ukrainian.

Causes and Common Types of Aviation Accidents

The causes of aviation accidents vary greatly depending on specific circumstances and problems that may develop during the flight process.

1. Decent and Landing Accidents

Descent and landing accidents account for 36 percent of all general aviation mishaps and the most common type of accident. There are five stages of the descent and landing process. These include descent, approach, landing, go-around or aborted landing, and taxi.

2. Aborted Landings

An aborted landing is a circumstance where the pilot of a plane must take control and abandon his or her landing plan for a safer alternative. This usually requires a second go-around followed by a successful landing, but sometimes complications can arise. Aborted landings are done out of necessity and to ensure the safety of all pilots and passengers involved.

3. Defective Landing Gear

Landing a plane safely is perhaps the most important part of a pilot's job. Sometimes this task is complicated not through the fault of a pilot but as a result of defective landing gear on the plane itself. It is not difficult to imagine the complications and disasters defective landing gear could cause.

4. Taxi and Takeoff Accidents

One of the most important parts of a flight is the preflight and planning stages of the operation. This involves preflight inspections for safety, flight preparation, taxiing, and takeoff. When combined, taxi and takeoff accidents account for about 22 percent of all commercial jet airplane accidents and about 22 percent of all fatalities.

5. Preflight Accidents

Before taking off, it is the responsibility of the pilot or airline to perform a complete inspection of the plane to make absolutely certain it is safe to be airborne. This process involves the checking of gauges, displays, instruments, and all parts of the plane to ensure its safety.

6. Climbout Accidents

The period of flight during takeoff and climbout can be extremely dangerous for pilots and passengers alike. Much of the uncertainty during this time can be prevented with effective flight planning. However, when pilots or staff members fail to be vigilant in planning their ascent, climbout accidents may be more likely to occur.

7. Mechanical Failures

No form of transportation is completely safe, and no machine is completely foolproof. Murphy's Law states that anything that can go wrong will go wrong. Tragically, this sometimes applies to aviation accidents when mechanical failures occur. Mechanical failure is responsible for 13 percent of all commercial airplane accidents from 1950 through 2004.

8. Electrical Malfunctions

Aging electrical systems on older airplanes can cause severe aviation accidents. Electrical malfunctions can be deadly because electrical systems control many of the instruments pilots rely on to fly steadily. When these instruments are unreadable, pilots must fly blindly and the lives of pilots and passengers are put at risk.

9. Fixed-Wing Accidents

When most people think of an airplane, the mental image they conjure up is that of a fixed-wing aircraft. The term fixed-wing can apply to monoplanes, biplanes, and triplanes. Fixed-wing airplanes are by far the most commonly used vehicles for commercial and recreational recreation.

10. Engine Failure

Engine failure is a mechanical problem that can easily lead to aviation accidents. There are many reasons engine failure may occur, including an insufficient fuel supply and the breaking of engine parts. Pilots and crew are specially trained to manage engine failure as best they can by gliding the plane to a safe landing, but sometimes the aviation accidents resulting from this mechanical problem can be horrific.

11. Defective Landing Gear

When mechanical problems affect the landing gear of an aircraft, a pilot's ability to land safely is compromised. Defective landing gear can result in panic and quick decisions that have lead to truly tragic aviation accidents in the past.

12. Defective Rudder

The rudder on an aircraft is an essential component on the tail that is used by the pilot to control the yaw axis. In aviation, the yaw axis describes the rotation about the vehicle's normal axis or center of mass. The rudder of an airplane is usually controlled by foot pedals, and when the pedals or rudder are defective the pilot becomes unable to fully control the plane.

13. Defective Gauges/Instruments

The gauges and instruments in the cockpit of an aircraft allow the pilot to control the vehicle he or she is flying. These gauges and instruments provide power, fuel supply, temperature, altitude, speed, position and other information that allows the aircraft to operate safely.

14. Pilot Errors and Negligence

When most people make mistakes at their jobs, their employment can be terminated. When pilots are negligent or make errors while on the job, there is the potential for hundreds of lives to be terminated. Pilots receive extensive training designed to prepare them to handle a wide variety of situations, but there are times when fatal mistakes are made.

15. Faulty Flight Maneuvers

Faulty flight maneuvers can be avoided when pilots are cautious and act professionally. Steep turns, slow flight, stalls and stall recovery, spins and spin recovery, and forced landings are all procedures that pilots should have mastered before earning their license.

16. Pilot Heart Attack/ Stroke

Pilots are under tremendous amounts of stress while flying. It is their duty to ensure the safety of themselves and all the passengers on board. US Navy studies have found that most pilots experience an increase in their heart rate when landing or taking off that can be explained by the high level of concentration required to perform these tasks safely.

17. Pilot Intoxication

Federal law dictates that pilots cannot drink alcohol within eight hours of a flight. This is because the level of attention to safely pilot an aircraft is extremely high. Studies have suggested that the number of serious errors made by pilots dramatically increases at blood alcohol concentration (BAC) levels as low as 0.025%. The effects of alcohol consumption can impact pilots who are not intoxicated at the time of flying.

18. Pilot Epileptic Attack

People diagnosed with epilepsy are forbidden by law to fly aircraft by the Federal Aviation Administration. This is due to the incapacitating effects an epileptic seizure could have on a pilot. Although there are different forms of epilepsy and a wide range of seizure severity, individuals suffering from epilepsy may not become licensed pilots.

19. Fuel Mismanagement

Fuel mismanagement often results in some of the most avoidable aviation accidents. There are two main forms of fuel mismanagement: fuel exhaustion and fuel starvation. Fuel exhaustion takes place when the aircraft is completely out of fuel, while fuel starvation occurs when fuel remains but the pilot does not switch tanks after one runs dry.

20. Gas/ Fuel Leak

When a gas or fuel leak occurs, fuel mismanagement is likely to occur. When pilots plan their flights they load their aircraft with fuel accordingly. The onset of a leak can severely shorten the amount of time one may safely fly. Pilots must act quickly when they observe a leak taking place. In some instances, by acting quickly and appropriately pilots may be able to avert an aviation accident.

21. Wrong Fuel Usage

It is extremely important for the correct fuel to be used in aircraft engines. Reciprocating engines require avgas, while turbine engines must run on jet fuel. Engine damage and other malfunctions are common consequences of using the wrong fuel. In some cases damage may occur slowly over time but in other circumstances overheating or combustion may take place.

22. Fuel Pump Malfunction

Aircraft fuel is what feeds engines and allows a vehicle to become and remain airborne. When the supply of fuel is interrupted, the fate of the aircraft is jeopardized. The fuel pump of an aircraft allows fuel to be distributed from tanks to the engines. When fuel pump malfunctions occur the results can be deadly.

23. Inclement Weather

Over an eleven year period there were over five thousand light aircraft accidents in the United States relating to inclement weather. Of these, over 1,700 resulted in fatalities.

Although poor weather conditions are beyond the control of pilots, airlines, and flight crew, these people have a responsibility for the safety of their passengers. When the decision is made to go ahead with a flight despite weather advisories, the lives of others are put at risk.

24. Lightning

It is estimated that on average each commercial airplane in the United States is struck by lightning at least once per year. Although it is extremely rare for aviation accidents to directly result from lightning contact, complications and other distractions may occur that could divert a pilot's attention from his or her flight plan.

25. Wind and Wind Shear

During an eleven year period, 48 percent of light aircraft weather accidents were caused by winds blowing aircraft off the side or end of a runway on takeoff. Although light aircraft are most affected by winds, larger aircrafts can be unexpectedly moved around as well. When this occurs a sense of panic may fill the cabin as passengers question their own safety and the competence of their pilots.

26. Snow

As anyone might suspect, flying in the snow can be a dangerous adventure. Pilots should not fly in whiteout conditions such as blizzards. At these times visibility is often so poor that instruments must be relied upon almost exclusively to determine one's position and surroundings.

27. Rain

Rain and thunderstorms can be extremely hazardous to aviation. Turbulence, cumulus clouds, high winds, ice, hail, lightning, loss of visibility, electrostatic discharge, tornadoes, altimetry errors, and wet runways often accompany rain and must be managed by pilots and flight crews. In most situations, pilots are instructed to avoid severe thunderstorms and rain due to the risks they may pose for passengers and crew.

28. Other Causes of Airplane Accidents

Beyond the obvious hazards that can contribute to an aviation accident, other causes exist. It is important for these possibilities to be taken into consideration so that the lives of passengers and other innocent people are not jeopardized by the short-sightedness of crew.

29. Bird Hazards

Although many people may not realize it, birds are a common threat to airline safety. A number of fatal accidents have been caused by bird strike, one of which killed 62 passengers in 1960. Bird strike is such a serious problem that the FAA estimates it costs United States aviation $480 million each year.

30. Mid-Air Collisions

A mid-air collision is every pilot and passenger's worst nightmare and one of the most dramatic types of aviation accident. Mid-air collisions are almost always due to human error, and are entirely preventable. Pilots receive training to avoid potentially dangerous situations, but when this preparation is overlooked fatal consequences may occur.

31. Air Traffic Control Errors

Not all air traffic control errors result in aviation accidents. Many errors are only described as "close calls", where a mistake was made but no accident took place. However, nobody wants to put their life at risk with "close calls" when they are travelling hundreds of miles per hour at thousands of feet above ground.

32. Structural Defects

Structural defects can lead to dramatic and unpredictable aviation accidents. Defects can range from faulty or aging wires to corrosion and fuselage loss. In 1988, a Boeing 737 flown by Aloha Airlines experienced a ruptured fuselage, tearing part of the cabin apart and blowing a flight attendant off the plane and to her death. The accident was caused by problems with the adhesive bonding process, a problem Boeing was already aware of.

33. Lack of Maintenance on an Airplane

Without maintenance, any aircraft will eventually become a serious hazard. Commercial, military, and private aviation organizations employ aircraft maintenance technicians to constantly work on aircraft to keep them safe and in working order. In the vast majority of cases, the work done is timely and of high quality, contributing the overall safety of flight as a mode of transportation.

Exercise 1. Open the brackets. Choose the correct word in brackets and complete the sentences.

1. The *(elevator, rudder, aileron)* on an aircraft is an essential component on the tail that is used by the pilot to control the yaw axis.

2. The rudder of an airplane is usually controlled by *(foot pedals, flaps, joystick)*, and when the pedals or rudder are defective the pilot becomes unable to fully control the plane.

3. Federal law dictates that pilots cannot drink alcohol within *(two, five, eight)* hours of a flight.

4. People diagnosed with *(flu, epilepsy, cancer)* are forbidden by law to fly aircraft by the Federal Aviation Administration.

5. *(Fuel exhaustion, fuel injection, fuel starvation)* takes place when the aircraft is completely out of fuel.

6. *(Fuel injection, fuel starvation, fuel exhaustion)* occurs when fuel remains but the pilot does not switch tanks after one runs dry.

7. Reciprocating engines require avgas, while turbine engines must run on *(jet fuel, alternative fuel, gas fuel)*.

8. *(Lift, gas, aircraft fuel)* is what feeds engines and allows a vehicle to become and remain airborne.

9. *(The fuel pump, fuel tank, fuel battery)* of an aircraft allows fuel to be distributed from tanks to the engines.

10. A number of fatal accidents have been caused by *(wind strike, bird strike, rain strike)*, one of which killed 62 passengers in 1960.

Exercise 2. Match the word to the appropriate definition.

1. A mid-air collision	a. an essential component on the tail that is used by the pilot to control the yaw axis.
2. Aircraft fuel	b. one of the most important parts of a flight.
3. Engine damage	c. what feeds engines and allows a vehicle to become and remain airborne.
4. The rudder on an aircraft	d. a circumstance where the pilot of a plane must take control and abandon his or her landing plan f a safer alternative.
5. Engine failure	e. the most common type of accident.
6. Preflight and planning stages of the operation	f. every pilot and passenger's worst nightmare and one of the most dramatic types of aviati accident.
7. Landing a plane safely	g. a mechanical problem that can easily lead to aviation accidents.
8. An aborted landing	h. that anything that can go wrong will go wrong.
9. Descent and landing accident	i. common consequence of using the wrong fuel.
10. Murphy's Law	j. the most important part of a pilot's job.

Exercise 3. Match the word to the most appropriate translation.

1. Aborted landing	a. зсув вітру
2. Gauge	b. надійний, безпечний; захищений від поломки
3. Foolproof	c. зіткнення в повітрі
4. Fuel leak	d. рулювання
5. Wind shear	e. передчасна посадка
6. Mid-air collision	f. огляд перед відльотом
7. Air traffic control	g. калібр
8. Fuel pump	h. керування повітряним рухом
9. Taxiing	i. витік пального
10. Preflight inspection	j. паливний насос

Exercise 4. Match the word in column A with those in column B in order to make an appropriate word-combination, as in the example: *aborted landing.*

1. Aborted	a. landing
2. Mid-air	b. leak
3. Preflight	c. malfunctions
4. Fuel	d. shear
5. Wind	e. control
6. Landing	f. pump
7. Air traffic	g. inspection
8. Fuel	h. hazards
9. Electrical	i. gear
10. Bird	j. collision

Exercise 5. Complete the following sentences with the words given in brackets.

1. There are five stages of the descent and landing process: descent, approach, landing, go-around or aborted landing, and *(рулювання)*.

2. Preflight involves preflight inspections for safety, flight preparation, taxiing, and *(зліт)*.

3. Aging electrical systems on older airplanes can cause severe *(авіакатастрофи).*

4. When these instruments are unreadable, pilots must fly blindly and the lives of pilots and passengers are *(піддаються ризику).*

5. The term fixed-wing can apply to monoplanes, biplanes, and *(трипланів).*

6. People diagnosed with epilepsy are forbidden by law to fly aircraft by the *(Федеральним управлінням ЦА США).*

7. There are two main forms of fuel mismanagement: fuel exhaustion and *(нестача пального).*

8. Reciprocating engines require avgas, while turbine engines must run on (*пальному для реактивних двигунів)*.

9. During an eleven year period, 48 percent of light aircraft weather accidents were caused by winds blowing aircraft off the side or end of *(злітно-посадкової смуги).*

10. At these times visibility is often so poor that instruments must be relied upon almost exclusively to determine one's position and *(прилеглі території).*

Exercise 6. Translate into English.

1. Аварії при зменшенні висоти та приземленні становлять 36 відсотків усіх нещасних випадків у сфері авіації та вважаються найхарактернішим видом аварій.

2. Передчасна посадка – це ситуація, коли пілот літака повинен взяти все під контроль та відмовитися від свого плану посадки задля безпечного приземлення.

3. Безпечна посадка літака можливо є найважливішою частиною роботи пілота.

4. Одними з найважливіших частин польоту є етапи планування вильоту.

5. Політ під час злету та при наборі висоти може бути надзвичайно небезпечним як для пілотів, так і для пасажирів.

6. Жоден вид транспорту не є у повній мірі безпечним, і жоден механізм не є у повній мірі надійним.

7. Несправність двигуна – це механічна несправність, яка може легко призвести до авіакатастрофи.

8. Руль напрямку літака є важливим компонентом його хвостової частини, пілот користується ним з метою керування рисканням.

9. Несправність подачі пального часто стає результатом деяких авіакатастроф, яких можна було уникнути.

10. Коли виникає витік газу чи пального, то може статися несправність подачі пального.

Exercise 7. Translate into Ukrainian.

1. Pilots must act quickly when they observe a leak taking place.

2. Reciprocating engines require avgas, while turbine engines must run on jet fuel.

3. Engine damage and other malfunctions are common consequences of using the wrong fuel.

4. The fuel pump of an aircraft allows fuel to be distributed from tanks to the engines.

5. Although poor weather conditions are beyond the control of pilots, airlines, and flight crew, these people have a responsibility for the safety of their passengers.

6. As anyone might suspect, flying in the snow can be a dangerous adventure.

7. Turbulence, cumulus clouds, high winds, ice, hail, lightning, loss of visibility, electrostatic discharge, tornadoes, altimetry errors, and wet runways often accompany rain and must be managed by pilots and flight crews.

8. Although many people may not realize it, birds are a common threat to airline safety.

9. Bird strike is such a serious problem that the FAA estimates it costs United States aviation $480 million each year.

10. A mid-air collision is every pilot and passenger's worst nightmare and one of the most dramatic types of aviation accident.

Unit 4. Airport Security

Text 1.

Read and translate the following text into Ukrainian.

Airport Security

Large numbers of people pass through airports. This presents potential targets for terrorism and other forms of crime due to the number of people located in a small area. Similarly, the high concentration of people on large airliners, the potential high death rate with attacks on aircraft, and the ability to use a hijacked airplane as a lethal weapon may provide an alluring target for terrorism.

Airport security attempts to prevent would-be attackers from bringing weapons or bombs into the airport. If they can succeed in this, then the chances of these devices getting on to aircraft are greatly reduced. As such, airport security serves several purposes: To protect the airport from attacks and crime and to protect the aircraft from attack, and to reassure the travelling public that they are safe.

Monte R. Belger of the U.S. Federal Aviation Administration notes "The goal of aviation security is to prevent harm to aircraft, passengers, and crew, as well as support national security and counter-terrorism policy."

While some countries may have an agency that protects all of their airports (such as Australia, where the Australian Federal Police is responsible for security at major airports), in other countries like the United States, the protection is controlled at the state or local level. The primary personnel will vary and can include:

1. A police force hired and dedicated to the airport
2. A branch (substation) of the local police department stationed at the airport
3. Members of the local police department assigned to the airport as their normal patrol area
4. Members of a country's military
5. Members of a country's airport protection service
6. Police dog services for explosive detection, drug detection and other purposes

Other resources may include:

7. Security guards
8. Paramilitary forces
9. Military forces

Some incidents have been the result of travellers being permitted to carry either weapons or items that could be used as weapons on board aircraft so that they could hijack the plane. Travellers are screened by metal detectors. Explosive detection machines used include X-ray machines and explosives trace-detection portal machines (a.k.a. "puffer machines"). Explosive detection machines can also be used for both carry on and checked baggage. These detect volatile compounds given off from explosives using gas chromatography. A recent development is the controversial use of Full body scanners to detect hidden weapons and explosives on passengers. These devices, which use Compton scattering, require that the passenger stand close to a flat panel and produce a high resolution image. There are misunderstandings about how x-ray backscatter personnel scanners function, but they do use ionizing radiation and the x-rays emitted from them penetrate skin as well as clothing. While the risk of cancer from a single backscatter check is probably low, the cumulative risk of repeated exposure to radiation is a threat to public health, especially for people working in the airline industry and frequent travellers. A technology released in Israel in early 2008 allows passengers to pass through metal detectors without removing their shoes, a process required as walk-though gate detectors are not reliable in detecting metal in shoes or on the lower body extremities. Alternately, the passengers step fully shod onto a device which scans in under 1.2 seconds for objects as small as a razor blade.

Generally people are screened through airport security into areas where the exit gates to the aircraft are located. These areas are often called "secure", "sterile" and airside. Passengers are discharged from airliners into the sterile area so that they usually will not have to be re-screened if disembarking from a domestic flight; however they are still subject to search at any time. Airport food outlets have started using plastic glasses and utensils as opposed to glasses made out of glass and utensils made out of metal to reduce the usefulness of such items as weapons.

In the United States non-passengers were once allowed on the concourses to meet arriving friends or relatives at their gates, but this is greatly restricted now in the United States. Non-passengers must obtain a gate pass to enter the secure area of the airport. The most common reasons that a non-passenger may

obtain a gate pass is to assist children and the elderly as well as for attending business meetings that take place in the secure area of the airport. In the United States, at least 24 hours' notice is generally required for those planning to attend a business meeting inside the secure area of the airport. Other countries, such as Australia, do not yet restrict non-travellers from accessing the airside area, however non-travellers are typically subject to the same security scans as travellers.

Sensitive areas in airports, including airport ramps and operational spaces, are restricted from the general public. Called a SIDA (Security Identification Display Area), these spaces require special qualifications to enter.

In some countries, specially trained individuals may engage passengers in a conversation to detect threats rather than solely relying on equipment to find threats. In the United States the TSA has run several dummy tests in several major airports to measure the success of catching people with bombs. In 2002, the TSA reported that roughly 60% of fake bombs or component parts to bombs were missed by covert screeners. In 2007, that percentage rose to 75%, although this increase alone is misleading. The tests are done by using undercover agents to carry fake bombs/parts in their carry-on luggage and counting how many are successful with getting through security checkpoints. The TSA runs covert tests every day and when a screener misses an undercover agent carrying dangerous items, they are immediately sent to remedial training.

Throughout the world, there have been a few dozen airports that have instituted a version of a "trusted traveller program". Proponents argue that security screening can be made more efficient by detecting the people that are threats, and then searching them. They argue that searching trusted, verified individuals should not take the amount of time it does. Critics argue that such programs decrease security by providing an easier path to carry contraband through.

Another critical security measure utilised by several regional and international airports is the use of fibre optic perimeter intrusion detection systems. These security systems allow airport security to locate and detect any intrusion on the airport perimeter, ensuring real-time, immediate intrusion notification that allows security personnel to assess the threat and track movement and engage necessary security procedures.

Exercise 1. Choose the most appropriate translation if any. Explain your choice.

1. Counter-terrorism policy

a) політика контр тероризму;
b) стратегія по боротьби з тероризмом;
c) концепція боротьби з тероризмом.

2. X-ray machine

a) апарат рентгенівського випромінювання;
b) рентгенівська установка;
c) рентгенівська машина.

3. Airport protection service

a) служба охорони безпеки аеропорту;
b) служба безпеки аеропорту;
c) послуги захисту аеропорту.

4. Ionizing radiation

1. випромінювання радіації;
2. іонізуюче випромінювання;
3. випромінювання іонів.

5. Airport ramp

1. рампа аеропорту;
2. стоянка аеропорту;
3. місце стоянки літака.

6. Security personnel

a) персонал охорони;
b) співробітники у галузі безпеки;
c) персонал служби безпеки.

7. Trusted traveler program

a) програма довіри туристам;
b) надійна програма для туристів;
c) програма перевірки подорожуючих.

8. Full body scanner

a) сканер усього тіла;

b) сканер у повний ріст;

c) повномасштабний сканер.

9. Perimeter intrusion detection systems

a) система виявлення вторгнення по периметру;

b) виявлення проникнення у периметральну систему;

c) периметральна система виявлення інтрузії.

10. Paramilitary forces

a) воєнні сили;

b) напіввоєнні формування;

c) воєнізовані сили безпеки.

Exercise 2. Match the word in column A with those in column B in order to make an appropriate word combination, as in the example: *gate pass.*

A	**B**
1. airport	a. scanners
2. walk-through	b. security
3. x-ray	c. detectors
4. full body	d. gate detectors
5. military	e. machines
6. puffer	f. forces
7. national	g. machines
8. metal	h. checkpoints
9. security	i. personnel
10. security	j. food outlets

Exercise 3. Offer all possible ways of translating the following sentences. Comment on the grammatical phenomena present in these sentences.

1. Through a sophisticated analysis of each checked bag, the explosive detection system machines can quickly determine if a bag contains a potential threat or not.

2. The software discards the X-ray-style image that revealed the contours of the traveller's body – the one that left many uncomfortable at the thought of screeners being able to see them with the rough outlines of their undergarments.

3. TSA officials are making the decision to expand on the ability of the software to detect objects and how efficiently it can move travellers through the security checkpoints.

4. Critics have complained that the full-body scans are intrusive.

From *http://www.msnbc.msn.com/*

Exercise 4. Translate the text into English.

У сучасному глобальному суспільстві цивільна авіація є потужною силою прогресу. Кожні декілька секунд 24 години на добу протягом усього року десь на нашій планеті злітає або здійснює посадку літак.

За минулі чотири десятиліття авіаційна безпека стала життєво необхідним фактором у міжнародній цивільній авіації, тому роль навчання в цій області не можна недооцінювати. В зв'язку з тим, що Міжнародна організація цивільної авіації (ІКАО) приділяє особливе значення впровадженню високих стандартів в галузі авіаційної безпеки, виникла потреба в спеціалізованій підготовці персоналу, для чого була створена міжнародна регіональна мережа навчальних центрів з АБ.

В 1998 році був створений Навчальний центр ІКАО з АБ Державного підприємства "Міжнародний аеропорт "Бориспіль". Його історія нерозривно пов'язана з історією розвитку аеропорту "Бориспіль". В 1996 році в структурі служби авіаційної безпеки аеропорту "Бориспіль" був створений Навчальний центр з підготовки персоналу з питань АБ, який вже в 1998 році був інавгурований Президентом Ради ІКАО доктором Ассадом Котайте як Навчальний центр ІКАО з авіаційної безпеки.

За 12-ти річну історію існування, в нашому центрі пройшли навчання фахівці з багатьох країн. Географія говорить сама за себе: Азербайджан, Албанія, Вірменія, Білорусь, Болгарія, Ботсвана, Угорщина, Грузія, Естонія, Казахстан, Киргизстан, Латвія, Литва, Македонія, Молдова, Польща, Росія, Словаччина, Словенія, Туркменістан, Узбекистан, Україна й Хорватія.

From *http://kbp.com.ua*

Exercise 5. Fill in the correct word or word combination (from the box below).

covert tests, full body scanners, sterile areas, security, TSA, x-rays, security checkpoints, backscatter technology

1. They said the _____they use are low energy to ensure they bounce only off skin rather than passing through the body, to produce an image focused on objects concealed beneath clothes.

2. _____take advantage of the fact that at certain wavelengths, electromagnetic waves can pass through clothes but not through the skin, metal or substances such as drugs and explosives.

3. The US _____admits that the scanners have the ability to store and print images.

4. _____of the Transportation Security Administration's screeners and equipment were conducted at hundreds of airports across the country from July to November 2003.

5. According to the report, most failures found at_____were due to a lack of recurrent training for screeners.

6. Our goal is to consistently improve _____, and each day we're building on the already strong system of security we've got in place.

7. _____ displays both organic and inorganic materials hidden on a person's body.

8. "Improvements are needed in the screening process to ensure that dangerous prohibited items are not being carried into the _____of heavily used airports or do not enter the checked baggage system," the report states.

From *http://www.govexec.com/*