

**Внеаудиторная самостоятельная работа студентов
по дисциплине «Профессионально-ориентированный авиационный
английский язык»**

25.02.05 «Управление движением воздушного транспорта»

1 курс, 2 семестр

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Методические указания

Внеаудиторная самостоятельная работа выполняется *рукописно* в тетради для конспектов по дисциплине.

Индивидуальное задание выполняется *рукописно* (в соответствии с заданием). Тексты и ответы на вопросы фотографируются и вставляются в документ с заданиями формата MS Office Word (сохраняемый в формате .doc, или .docx).

Индивидуальные задания выполняются в соответствии с расписанием занятий. Выполненные задания направляются на эл. почту преподавателя, указанную в шапке. Работа должна иметь титульный лист с указанием ФИО студента, группы, курса и специальности, а также тему и номер выполненного задания.

Внимание!

В процессе изучения тем могут быть внесены изменения в тематику заданий и форму отчетности.

Об изменениях будет доведено через старост групп.

Информационное обеспечение обучения.

**Перечень рекомендуемых учебных изданий, Интернет-ресурсов,
дополнительной литературы**

Основные источники:

1. Гуреев, В. А. Английский язык. Грамматика (B2) : учебник и практикум для среднего профессионального образования / В. А. Гуреев. — Москва : Издательство Юрайт, 2019. — 294 с. — (Профессиональное образование). — ISBN 978-5-534-10481-3. — Текст : электронный // ЭБС Юрайт [сайт]. — URL: <https://urait.ru/bcode/430572> (дата обращения: 28.05.2019)

2. Байдикова, Н. Л. Английский язык для технических направлений (B1–B2) : учебное пособие для среднего профессионального образования / Н. Л. Байдикова, Е. С. Давиденко. — Москва : Издательство Юрайт, 2019. — 171 с. — (Профессиональное образование). — ISBN 978-5-534-10078-5. — Текст : электронный // ЭБС Юрайт [сайт]. — URL: <https://urait.ru/bcode/442353> (дата обращения: 28.05.2019)

3. Кохан, О. В. Английский язык для технических специальностей : учебное пособие для среднего профессионального образования / О. В. Кохан. — 2-е изд., испр. и доп. — Москва : Издательство Юрайт, 2019. — 226 с. — (Профессиональное образование). — ISBN 978-5-534-08983-7. — Текст : электронный // ЭБС Юрайт [сайт]. — URL: <https://urait.ru/bcode/437135> (дата обращения: 28.05.2019)

4. Левченко, В. В. Английский язык. General English : учебник для среднего профессионального образования / В. В. Левченко, Е. Е. Долгалёва, О. В. Мещерякова. — Москва : Издательство Юрайт, 2019. — 127 с. — (Профессиональное образование). — ISBN 978-5-534-11880-3. — Текст : электронный // ЭБС Юрайт [сайт]. — URL: <https://urait.ru/bcode/446490> (дата обращения: 28.05.2019).

Дополнительные источники:

1. Raymond Murphy: Basic Grammar in Use : Cambridge University Press / R. Murphy, W. Smalzer, J. Chapple. — London, 2017.

2. Raymond Murphy: English Grammar in Use. Book with Answers : Cambridge University Press / R. Murphy. — London, 2019.

3. Беляева, С. А. English for aviation [Текст] : учебное пособие по чтению текстов авиационной тематики / С. А. Беляева, Н. С. Паскевич, Г. В. Попова. - Санкт-Петербург : Гамма, 2017.

4. Полубиченко, Л. В. Английский язык для колледжей (A2-B2) : учебное пособие для среднего профессионального образования / А. С. Изволенская, Е. Э. Кожарская ; под редакцией Л. В. Полубиченко. — Москва : Издательство Юрайт, 2019. — 184 с. — (Профессиональное образование). — ISBN 978-5-534-09287-5. — Текст : электронный // ЭБС Юрайт [сайт]. — URL: <https://urait.ru/bcode/427572> (дата обращения: 28.05.2019).

5. <https://www.lingvolive.com/ru-ru>

6. <https://www.multitran.com/m.exe?l1=1&l2=2>

7. <https://www.oxfordlearnersdictionaries.com/>

Тема 3. Самолет

Задание 1. Прочтите тексты и выполните задания.

AIRCRAFT

During those years which have passed since the first aeroplane was built, aviation has enjoyed phenomenal progress. At present aviation influences many aspects of social life.

In the dynamic world of today, aviation provides a rapid transportation link between different population centres. In many places the aeroplane is the only known vehicle for the large-scale movement of passengers and freight over large distances. The airplane has made it possible to patrol the forests, to fight their fires, to assess their timber resources and to plan their harvesting. It has made an enormous contribution to the photographing and mapping of the vast territories, to exploring and prospecting for mineral wealth and to studying and assessing the water resources.

As for the helicopter, besides its use for passenger transportation, this type of aircraft has proved its value in special applications where vertical take off-landing are required. Helicopters are widely used in search and rescue operations in emergency situations or when some accident occurs.

The main components of airplanes are as follows:

1. The fuselage is the main body of the airplane and contains the pilot's compartment (cockpit) and passenger and baggage compartments. The cockpit contains the flight controls and instruments.
2. The wings are the main lifting surfaces which support the aircraft in flight. Aircraft may be divided into monoplanes and biplanes.
3. The tail unit or empennage consists of a vertical stabilizer and rudder and the horizontal stabilizer and elevators to provide the necessary stability in flight.
4. The three basic flight control surfaces are the ailerons, the elevators and the rudder.
5. The power plant is the heart of the airplane. There are many types of engines: turboprop, turbojet, turbofan, rocket engines, etc.
6. The landing gear or undercarriage is used during manoeuvring of the aircraft on the ground while taxiing, taking off and landing. In flight the retractable landing gear is retracted into the wing or the fuselage structure.

AIRCRAFT INSTRUMENTS

Aircraft instruments are basically devices for obtaining information about the aircraft and its environment and for presenting that information to the pilot. Their purpose is to detect, measure, record, process and analyse the variables encountered in flying an aircraft. They are mainly electrical, electronic or gyroscopic. Modern aircraft have a computer on board. They are concerned with the behavior of the engines, the speed, height and attitude of the aircraft and its whereabouts. Instruments concerned with the whereabouts of an aircraft are

navigation instruments.

An aircraft usually takes the name of the designer or manufacturer. Here are some of the Russian designers: Tupolev, Ilyushin, Antonov, Yakovlev. Manufacturer's names are represented by Boeing, Douglas, Lockheed and others. The name of the designer or manufacturer is followed by a type code, known in some airlines as a class. For example: Ilyushin-96 (designer's name and type code), Boeing-747 (manufacturer's name and type code).

1.1. Ответьте на вопросы:

1. What does aviation provide?
2. Where are helicopters used?
3. What types of aircraft do you know?
4. Name the main parts of the aircraft.
5. What does the fuselage contain?
6. What for are the wings required?
7. What are the components of the wing?
8. What does the tail unit provide?
9. What is the power plant?
10. What types of engines do you know?
11. When are the landing gears used?
12. What is the purpose of aircraft instruments?
13. What Russian and foreign designers do you know?
14. What name does the aircraft take?

1.2. Переведите слова, обращая внимание на словообразующие элементы:

transport – transportation
move – movement – movable
possible – possibility – impossible
apply - application
power – powerful
retract – retraction – retractable - unretractable
require – requirement
provide – provision
measure – measurement
contribute – contribution

1.3. Найдите в тексте эквивалент следующим словосочетаниям:

населенный центр, минеральные и водные ресурсы, применение авиации, перевозка пассажиров, пассажирское и грузовое отделения, приборы самолета, навигационные приборы, рули управления самолетом, пилотская кабина, конструкция фюзеляжа, аварийная ситуация, поисково-спасательные операции.

1.4. Переведите на английский язык:

1. Огромный прогресс сделан в авиации за последнее десятилетие.
2. Авиация применяется во многих аспектах общественной жизни.
3. Авиация обеспечивает быструю перевозку пассажиров и груза из одной точки в другую.
4. В некоторых местах авиация является единственным средством перевозки.
5. Вертолет удобное средство передвижения благодаря вертикальному взлету и посадки.
6. Фюзеляж является основной частью самолета.
7. Несущими поверхностями самолета являются крылья.
8. Крылья и хвостовое оперение состоят из подвижных частей, таких как руль высоты, руль поворота, руль направления, стабилизатор, элерон.
9. Шасси используются при рулении на земле и убираются в крыло после взлета.
10. В кабине пилота много приборов, показывающих скорость и высоту полета, работу двигателя и другую информацию.
11. Современные самолеты имеют на борту компьютер.

Задание 2. Составьте глоссарий (словарь) к текстам из Задания 1.

Задание 3. Переведите тексты из Задания 1.

Тема 4. Полет

Задание 1. Прочтите текст и составьте 5-10 вопросов к нему. Составьте глоссарий (словарь) к тексту. Переведите этот текст.

SOME WORDS ABOUT EARLY FLYING

It is known that the desire to fly is as old as humanity. Observations for flying birds gave man the idea of human flight. Every nation has many legends and tales about birdmen and magic carpets. The earliest of these legends comes from China.

One of the most famous Greek legends is the legend of Daedalus and Icarus who made wings and fastened them on with wax. Daedalus landed in safety. Icarus was not so careful as his father and he flew closer and closer to the sun. The closer he was the hotter it became. The wax melted, his wings came off and he fell into the sea.

It is clear that in those old days people knew little about nature. They could not understand much about the air and its nature and were unable to explain most of the phenomena of nature.

As time went on there came a stage when people no longer regarded flight as a supernatural phenomenon. The desire to fly was the desire to control nature. People imitated birds when they used wings. They had to fight against many prejudices because there was common belief that man could not fly.

The first scientific principles of human flight appeared in the 14th century. The great scientist Leonardo de Vinci recorded a few of them. He found that a knowledge of the air and its currents helped to understand the phenomenon of flight.

Daedalaus was a Greek; Garuda was Indian; Leonardo de Vinci Italian; Lilienthal was German; Montgolfier and Bleriot were French; Hargrake was Australian; Captain Mozhaiski was a Russian; the Wright brothers were American. They were the pioneers. Nor is this the end of this truly international story. The air captured the imagination of all. It was the efforts of men of many countries who pioneered civil aviation, who brought it to the art that we know today, and who now help its rapidly developing growth. The aeroplane is a creature of no one country's knowledge and effort. So it became clear from the very start that without international agreement the development of aviation would be greatly limited. The most successful attempt came in 1944 at a Conference of 52 nations held in Chicago, at the invitation of the United States. It was at this conference that the International Civil Aviation Organization was created.

Задание 2. Прочтите текст и выполните задания.

SAFETY

Safety is the most important problem in aviation. The prevention of collisions between aircraft in the air and on the ground is the main task of aviation specialists.

The achievement of aviation safety is the result of progress in many sciences and disciplines including engineering, aerodynamics, meteorology, psychology, medicine and economics.

Safety is ensured by thousands of ICAO and governmental regulations, by high standards in the design and manufacture of an aircraft and by rigid (strict) procedures of airline safety practices.

The aviation industry is constantly taking steps to prevent accidents but the crashes do occur time after time. They result from different causes: failure in the aircraft structure, human errors, navigational failures, malfunctioning of airborne and ground aids, hazardous weather conditions and so on.

Poor knowledge of English can also contribute to or result in an accident or incident. Therefore ICAO revised the provisions related to the use of the language for radiotelephony communications and demands good discipline to follow more closely to standard phraseology in all air-ground exchanges.

Experience has shown that phraseology alone is not sufficient to cover all of the potential situations, particularly in critical or emergency situations. That's why proficiency in common or plain language is also of great importance.

One of ICAO's chief activities is standardization in all spheres of aviation operations. The main ICAO document is SARPS (International Standards and Recommended Practices). Its main task is to provide the necessary level of standardization for safe and regular air operations.

2.1. Ответьте на вопросы:

1. What is the most important problem in aviation?
2. What is the main task of aviation specialists?
3. By what means is safety ensured?
4. What factors may cause accidents?
5. What can you say about the role of language in the problem of safety?
6. Can radiotelephony alone cover all of the potential situations?
7. What is the main document ICAO?
8. What is the main task of SARPS?

2.2. Переведите слова, обращая внимание на словообразующие элементы:

terror – terrible – terribly – terrific

danger – dangerous – dangerously

care – careful – careless – carelessness

safe – safety – unsafe

prevent – preventive – prevention

collide – collision

special – specially – specialist – speciality – specialize – specialization

achieve – achievement

ensure – insurance

govern – governor – government – governmental

regular – regularly – regulation – regularity – irregular

differ – different – differently – difference
fail – failure
navigate – navigator – navigation – navigational
hazard – hazardous
know – knowledge – unknown
provide – provision – provider
relate – relation – relative – relatively – relativity
communicate – communication – communicative – community
sufficient – sufficiently – sufficiency – insufficient
proficient – proficiently – proficiency
necessary – necessarily – necessity – unnecessary
critical – critically – criticize – criticism – uncritical
close – closely

2.3. Переведите на английский язык:

1. Самая важная проблема в авиации – безопасность.
2. Для обеспечения безопасности полетов ИКАО установила специальные правила и процедуры.
3. Все государства – члены ИКАО должны строго соблюдать все правила и процедуры, принятые ИКАО.
4. Одна из самых задач авиационных специалистов – предотвращать столкновение самолетов в воздухе и на земле.
5. Достижения в технике, аэродинамике и других науках повышают авиационную безопасность.
6. Еще одним условием, обеспечивающим авиационную безопасность, является стандартизация во всех авиационных операциях.
7. Всем авиационным специалистам очень важно знать английский язык.
8. Хорошее знание английского языка необходимо для обеспечения безопасности полетов.
9. Причина катастрофы - человеческая ошибка.
10. Самолет не смог вылететь из-за опасных погодных условий.
11. Отказ двигателя привел к катастрофе.
12. В районе аэропорта аварийная ситуация.
13. Одна из главных задач ИКАО – обеспечивать необходимый уровень безопасности.

Тема 5. Погода

Задание 1. Прочтите текст и выполните задания.

WEATHER

Weather is composed of a number of elements such as the temperature and humidity of the air, atmospheric pressure, the speed and direction of the wind, air visibility and of special phenomena such as fog, storms and others.

Pilots need the information about weather conditions along the route of flight and at the destination aerodrome. The object of the meteorological service is to contribute to safety, efficiency and regularity of air traffic.

There exist some sources of aviation weather information: surface observation, radar observation, automatic meteorological observation, pilot reports and others.

At every airport there is a meteorological station which is equipped with special instruments recording all changes in the atmosphere. They indicate air pressure and temperature, record wind speed and direction as well as the movements of clouds. All the observations are summed up on special weather charts. The observations at the airports are made every 30 minutes and every 15 minutes if the weather suddenly gets worse or better.

Preparing for the flight the pilot is to get the latest weather information and weather forecasts along the planned route and at the point of destination and the alternates.

At a great number of met. stations situated along the airways complete weather observations are made and then transmitted to weather forecast centres by telephone, telegraph, radio and thousands of miles of teletype circuits. Thus, the pilot has a complete picture of the weather.

20-30 minutes before entering the aerodrome area the controller gives the pilot full information about the terminal weather. At many airports the information helpful for landing and take off is continuously broadcast on a navigational aid frequency. Prior to descent the pilot requests the actual weather and aerodrome conditions for the airport he is going to land.

It is considered that landing of an aircraft is probably the most difficult operation which a pilot has to perform and the standards of visibility required are higher than for any other phase of flight.

It is known that fog, rain and clouds often affect the aircraft operation. For many decades attempts were made to make flying independent of weather conditions or, in other words, to allow an aircraft to land under very low or zero visibility.

Now there exist several categories set up by ICAO:

Category I - 200 ft ceiling and 1/2 mile visibility;

Category II- 100 ft ceiling and I/4 mile visibility;

Category III - landing under zero-zero conditions.

Met. services for aviation require much work to collect data and prepare weather charts. This work is especially difficult for long-distance flights over vast

areas with different climatic conditions.

Nowaday met. services for aviation are almost fully automated. Automated Surface Weather Systems are installed at the airports of many countries. The System provides for the measurements, processing and display of the following meteorological parameters: wind direction and speed, air temperature and dew point t° , runway visual range, minimum cloud height, barometric pressure.

The use of lasers makes it possible to give pilots all the necessary information when they land under low visibility conditions. The introduction of these systems has greatly increased the reliability and safety of flights.

Satellite meteorology has become an independent area of science. Weather forecasts based on information from outer space make forecasts more accurate and help to save a great sum of money annually.

At present the work of meteorologist becomes easier thanks to computers which make calculations quicker and due to them the weather forecast service is becoming more reliable. The use of satellites and computers greatly increases the accuracy of weather forecasts.

1.1. Ответьте на вопросы:

1. What elements are included in weather report?
2. What is the object of meteorological service?
3. How often is weather observation made at the airport?
4. What do the instruments at the meteorological stations indicate?
5. What weather information does the pilot get before the flight?
6. Do the pilots obtain weather information while in flight?
7. When does the controller give the pilot full information about the terminal weather?
8. What phase of flight does especially depend on weather conditions?
9. What weather phenomena affect the aircraft operation?
10. What categories are set up by ICAO?
11. What does Automated Surface Weather System provide?
12. When do lasers help the pilots?
13. What is the advantage of satellite meteorology?
14. What other instruments make weather forecast service more reliable?

1.2. Переведите слова, обращая внимание на словообразующие элементы:

direct – direction

visual – visually – visibility

observe – observation – observer

equip – equipment

transmit – transmission – transmitter

regular – regularity

depend – dependence – dependent – independent

provide – provision

accurate – accurately – accuracy – inaccurate

rely – reliable – reliability – unreliable

1.3. Найдите в тексте эквивалент следующим словосочетаниям:
сводки погоды, погодные условия, давление воздуха, скорость ветра, направление ветра, нижняя граница облачности, прогноз погоды, центр прогнозирования погоды, прогностические карты, станция обеспечения полета, погода аэродрома посадки

1.4. Переведите на английский язык:

1. Погода состоит из таких элементов как температура и влажность воздуха, атмосферное давление, скорость и направление ветра, видимость.
2. Дождь, гроза, туман, шторм и другие явления опасны для полета.
3. Перед полетом пилот идет в метеобюро, чтобы получить сводку погоды и прогноз не только по своему маршруту, но и в пункте назначения.
4. В каждом аэропорту есть метеостанция со специальными приборами, регистрирующими все изменения в атмосфере.
5. Имея все данные о погоде, синоптики составляют погодную карту.
6. Во многих аэропортах информация о погоде непрерывно транслируется на определенной частоте.
7. Посадка самолета – самая трудная операция.
8. Стандарты видимости для посадки выше, чем для любой другой фазы полета.
9. Сейчас большинство метеостанций почти полностью автоматизированы.
10. Автоматическая система погоды показывает скорость и направление ветра, температуру воздуха, точку росы, дальность видимости на полосе, высоту облачности.
11. Прогноз погоды, полученный со спутников, делает его точнее.
12. Использование спутников и компьютеров повышает точность прогноза погоды.

Задание 2. Составьте глоссарий (словарь) к тексту из Задания 1.

Задание 3. Переведите текст из Задания 1.