

МИНИСТЕРСТВО ТРАНСПОРТА И КОММУНИКАЦИЙ  
КЫРГЫЗСКОЙ РЕСПУБЛИКИ

АГЕНТСТВО ГРАЖДАНСКОЙ АВИАЦИИ

КЫРГЫЗСКИЙ АВИАЦИОННЫЙ ИНСТИТУТ  
им. И.АБДРАИМОВА

Цикловая комиссия “ЯЗЫКОВ”

«ОДОБРЕНО»

Учебно-методическим советом  
Кыргызского авиационного  
Института им. И. Абдраимова  
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ПРОГРАММА  
ИТОГОВОЙ ГОСУДАРСТВЕННОЙ АТТЕСТАЦИИ

на 2021-2022 учебный год для студентов 3 курса  
по специальности 160905 “Организация перевозок и управление на  
воздушном транспорте”

По дисциплинам:

“Технический английский язык”

Составитель: Саргожоева А. Т.

Рассмотрено на заседании ЦК “языков ”

Протокол № 5 от “ 12 ” 01 2022г.

Председатель ЦК “ЯЗЫКОВ”: Иматов Э Т

Бишкек 2022г.



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Программа разработана и обсуждена на заседании ЦК “Языков”

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Председатель ЦК “ЯЗЫКОВ”: Иматов Э Т

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## Общие положения

Итоговую государственную аттестацию (далее – ИГА) по дисциплине “Технический английский язык”, сдают студенты по специальности 160905 “**Организация перевозок и управление на воздушном транспорте** среднего профессионального образования, разработан на основании положения Об итоговой государственной аттестации выпускников Кыргызского авиационного института им. И. Абдраимова от 23.05.2018 г.

Программа Итоговой государственной аттестации составлена преподавателями цикловой комиссии “Языков” Кыргызского авиационного института им. И. Абдраимова.

Программа представляет собой требования к уровню знаний языка по организации и управлению авиационными перевозками, государственному регулированию авиaperезовок, обязательных для каждого студента по направлению 160905 Организация перевозок и управление на воздушном транспорте» КАИ им. И. Абдраимова.

### 1. Регламент проведения государственной аттестации

Итоговая государственная аттестация проводится в форме устного экзамена. Сроки проведения ИГА согласно утвержденному календарному графику учебного процесса. К ИГА допускаются студенты 3 курса очной формы обучения

Программа Итоговой государственной аттестации доводится до сведения студентов не позднее, чем за 6 месяцев до предполагаемой даты экзамена.

При проведении итоговой государственной аттестации ответы студентов оцениваются согласно шкалы соответствия рейтинговых оценок пятибалльным оценкам.

Оценка за итоговый государственный экзамен свидетельствует об уровне сформированности компетенций и усвоения студентами соответствующих учебных дисциплин.

### 2. Форма проведения государственной аттестации

Проверка компетенций проводится в форме устного экзамена.

Экзаменационный комплект содержит по 30 вопросов каждой дисциплины и каждый правильный ответ оценивается согласно шкалы соответствия рейтинговых оценок пятибалльным оценкам:

- **первый раздел** – Перевод слов и словосочетаний с английского языка на русский язык – 180 вопросов;
- **второй раздел** - Перевод слов и словосочетаний с русского языка на английский язык – 180 вопросов;
- **третий раздел** – Чтение и перевод текста – 30 вопросов;

На подготовку и ответ по вопросам билета отводится не более 30 минут. За каждый верный ответ студент получает оценку, что соответствует пятибалльным оценкам по шкале.

Результаты итоговой государственной аттестации, определяются оценками "отлично", "хорошо", "удовлетворительно", "неудовлетворительно" и объявляются в тот же день после оформления в установленном порядке.

Решения принимаются при обязательном присутствии председателя комиссии или его заместителя, и оформляются протоколом.

Результаты ИГА доводятся до студента по окончании прохождения экзамена.



## **Программа по дисциплине “Технический английский язык”**

### **1. Цель преподавания дисциплины:**

Целью государственного экзамена является определение степени освоения учебной дисциплины “Технический английский язык” рассмотрение вопросов по изучению общепрофессионального языка, а также использование языка деятельности производственных процессов деятельности аэропортов.

Основной задачей подготовки выпускника по данному предмету является расширение объемов предоставляемых услуг при перевозки и пути привлечения пассажиров и грузовой клиентуры.

### **2. Перечень материалов, выносимых для проверки на ГЭ**

1. INTERNATIONAL CIVIL AVIATION ORGANIZATIONS
2. WEATHER
3. AIRCRAFT
4. SAFETY
5. AIR TRAFFIC CONTROL
6. HUMAN FACTORS IN AVIATION
7. LANGUAGE PROBLEMS IN AVIATION
8. ICAO
9. THE EFFECTS OF THE WEATHER ON AVIANION
10. DIALOGUES

### **3. Рекомендации обучающимся при подготовке к ИГА:**

При подготовке к ИГА особое внимание следует обратить на следующие моменты:

- необходимо изучить фактический материал дисциплины по темам. Обратить внимание на особенности разговорного языка профессиональной деятельности, формулировки, разъяснения уделяя основное внимание выработке речевых навыков, восприятия на слух и навыков общения и практические рекомендации по их применению;

- при подготовке к ИГА студентам необходимо изучить основную литературу, ознакомиться с дополнительной литературой, новыми публикациями в периодических изданиях: журналах, газетах и т.д.;

- выделить такие аспекты: правила перевозок пассажиров, багажа и грузов на внутренних и международных авиалиний по дисциплине «“Технический английский язык”»

### **Раздел I, II Перевод слов и словосочетаний с русского на английский и с английского на русский язык.**

демонстрация способности говорить и понимать язык на уровне используемом в радиотелефонной связи. Это-произношение, словарный запас, беглость речи, понимание и общение.

### **Раздел III. Чтение и перевод текста.**

**В чтении читать аутентичные тексты с выборочным пониманием нужной информации.**

**Делать выводы из прочитанного текста.**

**Понимать логические связи внутри и между частями текста.**



### **Tema III.I INTERNATIONAL CIVIL AVIATION ORGANIZATIONS**

What is ICAO and where was it created? Working languages of ICAO.  
Where is the ICAO headquarters?

#### **INTERNATIONAL CIVIL AVIATION ORGANIZATIONS**

It is known that the pioneers of aviation were men of different nationalities and of many countries: Daedalus and Leonardo de Vinci, Lilienthal and Bleriot, Mozhaiski and the Wright brothers and others. So the aeroplane is a creature of no one country's knowledge and efforts. A peculiarity of air transport made it clear from the start that the development of aviation was impossible without international agreement. That's why the International Civil Aviation Organization (ICAO) was created. It happened in 1944 at a conference of 52 nations held in Chicago. At present there are about 200 member States in ICAO. Its headquarters is in Canada, Montreal. The working languages of ICAO are English, French, Spanish and Russian. Russia has been the member of ICAO since 1970 .

It is very difficult to describe all of ICAO's activities. ICAO solves many problems on the international level. ICAO has a coordination agency. One of its purposes is to gather knowledge widely scattered among nations and to standardize the equipment and operational techniques used in air navigation in and over the territories of its member-states. The main task of ICAO is the flight safety. The aims of the Organization are spelt out in Article 44 of the Chicago Convention. These are to develop the principles and techniques of international air navigation, to plan and develop international air transport; to encourage the arts of aircraft design and operation for peaceful purposes; to encourage the development of airways, airports and air navigation facilities for international civil aviation, and so on.

To ensure the safe and efficient worldwide aviation operation ICAO has developed technical specifications forming the basis for uniform rules and procedures. Standardization affects the air-worthiness of aircraft, facilities and services required for aircraft operations elsewhere. These include: aerodromes, communications, navigational aids, meteorology, air traffic services, search and rescue, information services. ICAO is doing much to make the air more clear. There are special standards to reduce noise by designing new quieter aircraft. ICAO has set up standards for air crew and controllers as well. ICAO is also doing much to prepare and train aviation specialists.

The second in its importance organization after ICAO for international civil aviation is IATA - International Air Transport Association founded in 1945. It is one of the international civil aviation organizations uniting world airlines. IATA is concentrated on the safety problem. Its main objective is to contribute to safe and regular development of civil aviation and to cooperation of world airlines. Its Technical Committee deals with the problem of safety, standardization of aviation equipment, training of flying personnel, communications, meteorology, aerodromes, navigational aids, etc. All IATA members report the data on flying, taxiing and other ground incidents including maintenance deficiencies. Flight safety experts, aviation specialists and scientists of the member States investigate these accidents to prevent them in future. Russia is a member of IATA, it conforms to the IATA's standards, procedures and documents which is of great importance for studying and solving the problems which IATA deals with.

International Federation of Air Traffic Controllers' Association (IFATCA) was founded in 1961 with the purpose to enable the national associations to study and solve the problems for the development of air traffic control art and to create a better understanding among the controllers serving international aviation.

Eurocontrol is the European organization working for air navigation safety. It was created in 1963 for better service of European airspace. Some European countries have signed the



agreement of cooperation for the safety of air navigation and organized common air traffic services in the upper airspace.

### **Тема III.II WEATHER**

What is the object of meteorological service? Sources of aviation weather information. What categories are setup by ICAO? Advantage of satellite meteorology.

#### **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 1/4 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  $t^{\circ}$ , 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.

### **Тема III.III AIRCRAFT**

Name the parts of aircraft. What for are the wings required?

#### **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.



### **Tema III.IV SAFETY**

The main task of aviation specialists. The most problem in aviation. The role of language in the problem of safety.

#### **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.

### **Tema III. V AIR TRAFFIC CONTROL**

The role of the English language in controller's work. The main task of ATS activity. How many aircraft may controllers control at peak traffic periods?

#### **AIR TRAFFIC CONTROL**

The ATC's first concern is safety, that is the prevention of collision between aircraft in the air and orderly flow of traffic.

To perform their exacting duties air traffic controllers need adequate facilities. The introduction of radars greatly assists in expediting the flow of traffic reducing the separation minima.

Computers are also a powerful tool. They give assistance by taking over routine tasks but they must not dominate the system. The human controller is much more efficient than any current system because it is he who takes responsibility for controlling aircraft and it is he who takes final decisions in all situations including conflicting and emergency.

During periods of heavy traffic controllers work under high stress. They may control several aircraft simultaneously, their number sometimes exceeding 15 and even more. Controllers' slightest error may cause loss of human lives and property.

Top physical and mental condition is a vital requirement for ATC controllers. Therefore they undergo strict medical examination which are repeated at periodic intervals.

The problem of the selection and training of ATC personnel is extremely important. The controllers should possess a number of qualities which are absolutely necessary for them: a high



degree of morality, a very good nervous and emotional balance, a sound critical judgment, a readiness for decisions and an instinct for team work. To become a highly professional controller one must be proficient not only in specialized aviation English but also in plain language because aviation safety depends on accurate pilot – controller communications.

The training of ATC personnel is carried out by different methods using various teaching aids, systems and simulators. Modern simulators can reproduce the whole ATC task from take-off to landing including all manoeuvres even the dangerous ones.

### **Тема III.VI HUMAN FACTORS IN AVIATION**

The purpose of the symposia and seminars. When and where was the first symposium on flight safety held? Why is the flight safety and human factors programme so important ?

#### **HUMAN FACTORS IN AVIATION**

Human factors is a critical aspect of aviation safety, one that ICAO began to address more than a decade ago.

ICAO convened the first in a series of global symposia on flight safety and human factors in 1990. From the beginning, when the first event was held in a city known then as Leningrad, there was a conviction that international aviation could make enormous progress in improving safety through the application of human factors knowledge.

The first symposium was a turning point and the stage for following meetings in the United States in 1993, in New Zealand in 1996 and, finally in Chile in 1999. There have been encouraging developments since 1990, but we still have challenges to pursue: after the Leningrad symposium, human error remains a significant safety concern.

The purpose of the worldwide symposia and 10 regional seminars which were held in the past decade was to increase the awareness of States, industry and organizations in all ICAO regions about the importance of human factors. The ongoing implementation of the ICAO communication, navigation, surveillance and air traffic management (CNS/ATM) systems concept has introduced new challenges, and also new possibilities for human factors. The reason the community must respond to is, of course, to ensure that civil aviation continues to achieve its ultimate goal: the safe and efficient transportation of passengers and goods.

The ICAO flight safety and human factors programme is safety-oriented and operationally relevant. Moreover, it is practical since it must deal with real problems in a real world. Through the programme, ICAO has provided the aviation community with the means and tools to anticipate human error and contain its negative consequences in the operational environment. Furthermore, ICAO's efforts are aimed at the system – not the individual.

The global aviation safety plan (GASP) was developed by the ICAO Air Navigation Commission in 1997 and subsequently approved by the ICAO Council and endorsed by the ICAO Assembly. GASP was designed to coordinate and provide a common direction to the efforts of States and the aviation industry to the extent possible in safety matters. It is a tool that allows ICAO to focus resources and set priorities giving emphasis to those activities that will contribute the most to enhancing safety. Therefore the flight safety and human factors programme is among the six major activities that comprise the plan.



### **Tema III.VII LANGUAGE PROBLEMS IN AVIATION**

The problems facing both pilot and controller. The peculiarities of pronunciation.

#### **LANGUAGE PROBLEMS IN AVIATION**

Nowadays many people of different tongues are using aeroplanes everywhere. And this is the language problem for an airport, airspace user and navigation personnel.

It is known that the working languages of ICAO are those of English, French, Spanish and Russian. But it is known as well that many aviation specialists in the world are very limited in the knowledge of one of these languages or even do not undergo sufficient training in English to master radio communication. This results in some problems facing both pilots and controllers, namely: accent, mispronunciation, inaccurate grammar, speed of delivery, the persistent use of non-standard radio-telephony (RT) phraseology and some others.

A prerequisite to becoming a controller or a pilot should be a high standard of spoken English. A non-native speaker monitoring another speaking English over the RT may be confused by inaccurate grammar or pronunciation.

Speed of delivery is another frequently heard complaint, especially about aerodrome terminal information services (ATIS) and meteorological broadcasts to aircraft in flight (VOLMET).

It is not less important to speak without pauses and stumbles over words. The best recommendation is the rate of 100-120 words per minute.

Another difficulty is that of accent which is not easily rectified. This problem is connected with the peculiarities of pronunciation. For example, there exist peculiarities in pronunciation inherent in certain geographical regions in the South Pacific.

The ICAO RT phraseology has been designed to limit each instruction to the minimum number of words. It is for this reason that a controller does not want to waste time listening to extraneous language, particularly at busy times when the traffic flow is heavy.

It sometimes happens that the user may be able to speak the limited number of phrases quite well and may react to them correctly. But it does not mean that he is really speaking the language. He is treating it as a code without being aware of adequate meaning of the words spoken. This will do in a standard situation, but in an emergency communication is absolutely impossible. It follows that any course of teaching RT phraseology by rote without language teaching is dangerous as the student is unable to cope with emergencies.

### **Tema III.VIII ICAO**

The ICAO activities. INTERNATIONAL STANDARD AND RECOMMENDED PRACTICES SAHR .  
One of the major Council duties.

#### **ICAO**

In November 1944 in Chicago 52 nations signed the Convention on International Civil Aviation. The 96 Articles of the Convention provide for the adoption of international standards and recommended practices. It was decided that ICAO would come into being (start working) after the Convention was ratified by 26 states. It happened on the 4-th of April in 1947. Montreal was chosen as the headquarters of the Organization.

The ICAO activities are numerous. The main task is to provide the necessary level of standardization for the safe and regular air operations. SAHRS (International Standard and Recommended practices) regulate air navigation, recommend installation of navigation facilities



and suggest the reduction of customs formalities. International standards must be strictly observed by all member States. Recommended practices are desirable but not essential. ICAO has a Sovereign body, the Assembly, and a governing body, the Council. The Assembly meets once in 3 years and reviews the work in the technical, economic and legal fields in detail. The Council is a permanent body composed of representatives of the Contracting states. Its first President was Edward Warner.

The Council is assisted by the Air Navigation Committee, the Legal Committee, the Committee on Unlawful Interference and some others. One of the major Council duties is to adopt International Standards and Recommended Practices. It may act as an arbiter between Member States. And, in general, it may take any steps necessary to maintain the safety and regularity of air operations.

There are 18 Annexes to the Convention, they cover all aviation problems.

The Secretariat staff, headed by the Secretary General, provides the permanent organizational work. ICAO has 6 regional offices. The working languages of ICAO are English, French, Spanish and Russian.

In 1958 the Warner Awards were established by ICAO for outstanding contributions to international civil aviation.

#### SOME CIVIL AVIATION ORGANIZATIONS

1. IATA - International Air Transport Association is the second in its importance organization after ICAO for international civil aviation. It was founded in 1945 and is uniting world airlines. The main objective of this organization is to provide safe and regular development of civil aviation and cooperation of world airlines. The IATA Technical Committee deals with the problem of safety, standardization of aviation equipment, training of flying personnel, communications, meteorology, aerodromes, navigational aids, etc.
2. International Civil Airports Association (ICAA) is the major international airports association. It is an organization permitting a constant exchange of experience, information and documentation among airports as well as contacts between airport managements. Founded in 1962 ICAA is doing much to help countries in developing both domestic and international airports providing specialists and equipment.
3. International Federation of Air Traffic Controllers' Associations (IFATCA) was founded in 1963 with the purpose to enable the national associations to study and solve the problems for the development of air traffic control art and to create a better understanding among the controllers serving the international aviation.
4. Eurocontrol is the European organization working for air navigation safety. It was created in 1963 for better service of European airspace. The increase of fast flying civil transport aircraft brought a number of difficulties and resulted in the necessity of new operating methods and use of advanced technology. Some European countries signed an agreement to organize common air traffic control in the upper airspace.



