

МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РОССИЙСКОЙ ФЕДЕРАЦИИ
Федеральное государственное бюджетное образовательное учреждение
высшего профессионального образования
«Забайкальский государственный университет»
(ФГБОУ ВПО «ЗабГУ»)

Факультет филологии и массовых коммуникаций

Кафедра иностранных языков (гуманитарно-педагогическое направление)

УЧЕБНЫЕ МАТЕРИАЛЫ
для студентов заочной формы обучения

по дисциплине «Иностранный язык»

для направления подготовки 44.03.01 «Педагогическое образование»

профиль «Биологическое образование»

Общая трудоемкость дисциплины 288 часов, 8 зачетных единиц

Виды занятий	Распределение по семестрам в часах			Всего часов
	1 семестр	2 семестр	3 семестр	
1	2	3	4	5
Общая трудоемкость	72	108	108	288
Аудиторные занятия, в т.ч.:	8	8	16	32
лекционные (ЛК)	-	-	-	-
практические (семинарские) (ПЗ, СЗ)	-	-	-	-
лабораторные (ЛР)	8	8	16	32
Самостоятельная работа студентов (СРС)	64	100	92	256
Форма промежуточного контроля в семестре*	зачёт	зачёт	экзамен	-
Курсовая работа (курсовой проект) (КР, КП)	-	-	-	-

Краткое содержание курса

№ п/п	Перечень изучаемых тем, разделов дисциплины (модуля).
1	<p>Тема: О себе (About myself). Тема: Моя семья (My family). Моя учеба в университете (My University course). Грамматика: местоимения, артикли, числительные, множественное число существительных, there is/are, to have, to be, личные местоимения. Имя существительное: образование мн. числа. Артикль (понятие, виды). Структура простого предложения. Формальные признаки подлежащего. Порядок слов в предложении. Лексика: по указанной теме.</p>
2	<p>Тема: Биология – наука о жизни (Biology - the study of life) Грамматика: there is/are, числительные. Притяжательный падеж имен существительных. Разряды местоимений. Словообразование. Предлоги. Степени сравнения прилагательных. Времена групп Simple, Progressive. Виды вопросительных предложений. Лексика: по указанной теме.</p>
3	<p>Темы: 1. Чем занимаются биологи (What do biologists do?). 2. Известные биологи и их открытия (Famous biologists and their discoveries). Грамматика: Употребление времен группы Perfect. Passive Voice. Модальные глаголы.</p>

Форма текущего контроля

Контрольная работа №2 (2 семестр)

Exercise 1 Practise in reading and give Russian equivalents of the following words and word combinations. Write the words in phonetic transcription.

Grandeur, algae, elephant, wonder, virus, characteristic of life, living thing, animals and plants, visible, invisible, world of bacteria, cell, living creature, environment, metabolic process, survival, stimuli, adaptation, mountainous area, to experience difficulty, increase in heart rate, somatic change, genotypic, genetic, pesticide, symptom, principle, cell theory, gene theory, evolution, homeostasis, laws of thermodynamics, gene transmission, chromosome, noticeable, efficient, discipline, zoology, botany, microbiology, microorganism, subdiscipline, anatomy, cell biology, genetics, physiology.

Exercise 2 Match disciplines and subdisciplines of biology in column A with their definitions in column B.

A	B
1. zoology	a. the study of heredity and the variation of inherited characteristics
2. botany	b. the scientific study of how people's and animals' bodies function, and of how plants function
3. microbiology	c. a scientific discipline that studies physiological properties and structure of cells

4. anatomy	d. the scientific study of the physiology, structure, genetics, ecology, distribution, classification, and economic importance of plants
5. genetics	e. the branch of science that deals with microorganisms
6. physiology	f. the scientific study of the behaviour, structure, physiology, classification, and distribution of animals
7. cell biology	g. the study of the structure of the bodies of people or animals

Exercise 3 What parts of speech are the following words? Put them into the correct column. Translate the words.

Biology, important, equally, simply, visible, enormously, organization, basic, environment, ability, creature, accidentally, instantly, survival, finally, adaptation, reversible, mountainous, difficulty, final, genotypic, development, normally, somatic, foundation, evolution, mutation, transmission, noticeable, environmental, resistance, generation.

Noun	Adjective	Adverb
....

Exercise 4 Give the singular form of the nouns.

Phenomena, species, data, analyses, series, genera, bacteria, analyses, algae, stimuli, homeostases.

Exercise 5 Define the tense form of the predicates. Translate the sentences.

1. Organisms have very complex organization. 2. Living creatures take in energy from the environment. 3. Zoology deals with animal studies. 4. The field of biology can be divided into several disciplines. 5. Genes are located on chromosomes. 6. Living organisms also have the ability to rebuild and repair themselves. 7. Biology is the study of life. 8. The field of biology is very broad in scope.

Exercise 6 Make the sentences interrogative (general questions).

1. Life grows and develops. 2. Life can reproduce. 3. Somatic changes occur as a result of prolonged changes in the environment. 4. Biology is the study of life. 5. Biology is based on five basic principles. 6. All living organisms are composed of cells.

Exercise 7 Make special questions to the sentences below.

1. Organisms have an enormously complex organization. 2. Living organisms have the ability to rebuild. 3. There are three basic types of adaptations occurring in higher organisms. 4. Genes consist of DNA. 5. Microbiology is the study of microorganisms.

Exercise 8 Do you know plants, animals and insects? Put the words into the correct column. Add more animals, plants and insects to each of the group.

Butterfly, lion, frog, bee, camomile, birch, crocodile, snake, deer, dog rose, beetle, raspberry, violet, ant.

Plants	Animals	Insects
...

Exercise 9 Read and translate the text.

Biology - The Study of Life

By Regina Bailey, <http://biology.about.com>

What is biology? Simply put, it is the study of life - life in all of its grandeur. From the very small algae to the very large elephant, life has a certain wonder about it. With that in mind, how do we know if something is living? Is a virus alive or dead? What are the characteristics of life? These are all very important questions with equally important answers.

Characteristics of Life

Living things include both the visible world of animals and plants, as well as the invisible world of bacteria. On a basic level, we can say that life is ordered. Organisms have an enormously complex organization. We're all familiar with the intricate systems of the basic unit of life, the cell.

Life can also "work." No, not the daily employment variety, but living creatures can take in energy from the environment. This energy, in the form of food, is transformed to maintain metabolic processes and for survival.

Life grows and develops. This means more than just getting larger in size. Living organisms also have the ability to rebuild and repair themselves when injured.

Life can reproduce. Have you ever seen dirt reproduce? I don't think so. Life can only come from other living creatures.

Life can respond. Think about the last time you accidentally stubbed your toe. Almost instantly, you flinched back in pain. Life is characterized by this response to stimuli.

Finally, life can adapt and respond to the demands placed on it by the environment. There are three basic types of adaptations that can occur in higher organisms. Reversible changes occur as a response to changes in the environment. Let's say you live near sea level and you travel to a mountainous area. You may begin to experience difficulty breathing and an increase in heart rate as a result of the change in increase in heart rate. These symptoms go away when you go back down to sea level.

Somatic changes occur as a result of prolonged changes in the environment. Using the previous example, if you were to stay in the mountainous area for a long time, you would notice that your heart rate would begin to slow down and you would begin to breathe normally. Somatic changes are also reversible.

The final type of adaptation is called genotypic (caused by mutation). These changes take place within the genetic makeup of the organism and are not reversible. An example would be the development of resistance to pesticides by insects and spiders.

Reversible changes occur as a response to changes in the environment. Let's say you live near sea level and you travel to a mountainous area. You may begin to experience difficulty breathing and an increase in heart rate as a result of the change in altitude. These symptoms go away when you go back down to sea level.

In summary, life is organized, "works," grows, reproduces, responds to stimuli and adapts. These characteristics form the basis of the study of biology.

Basic Principles of Biology

The foundation of biology as it exists today is based on five basic principles. They are the cell theory, gene theory, evolution, homeostasis, and laws of thermodynamics.

Cell Theory: all living organisms are composed of cells. The cell is the basic unit of life.

Gene Theory: traits are inherited through gene transmission. Genes are located on chromosomes and consist of DNA.

Evolution: any genetic change in a population that is inherited over several generations. These changes may be small or large, noticeable or not so noticeable.

Homeostasis: ability to maintain a constant internal environment in response to environmental changes.

Thermodynamics: energy is constant and energy transformation is not completely efficient.

Subdisciplines of Biology

The field of biology is very broad in scope and can be divided into several disciplines. In the most general sense, these disciplines are categorized based on the type of organism studied. For example, zoology deals with animal studies, botany deals with plant studies, and microbiology is the study of microorganisms. These fields of study can be broken down further into several specialized sub-disciplines. Some of which include anatomy, cell biology, genetics, and physiology.

Exercise 10 Look through the text and find English equivalents for the following Russian words and phrases.

Наука о жизни, водоросли, живые существа (2), мир растений и животных, сложная система, клетка, окружающая среда, пища, метаболический процесс, воспроизводить, реакция на раздражители, обратимые изменения, испытывать трудность, увеличение частоты сердцебиений, соматические изменения, генотипический, основываться на принципах, клеточная теория, генная теория, эволюция, гомеостаз, законы термодинамики, наследовать, генетическое изменение, хромосома, ДНК, изменения в окружающей среде, зоология, ботаника, микробиология, анатомия, цитология, генетика, физиология.

Exercise 11 Insert suitable words from the text into these phrases.

1. The study of ... 2. ... things 3. visible world of ... and plants 4. basic ...of life
5. living ... 6. to ... metabolic processes 7. response to ... 8. sea ... 9. increase in
... rate 10. ... changes 11. to experience ... 12. ... principles 13. the field of ...

Exercise 12 Complete the following sentences.

1. Biology is the study of ... in all of its ... 2. Living things include the visible world of ... and plants, as well as the invisible world of 3. The basic unit of life is ... 4. Living creatures can take in energy from 5. Living organisms have the ability to ... and ... themselves. 6. Life is characterized by the response to ... 7. ... changes occur as a response to ... in the environment. 8. Somatic changes occur as a result of ... changes in the environment. 9. Genotypic changes are not 10. The foundation of biology is based on ... basic principles. 11. The field of biology is very broad in ... 12. ... deals with animal studies. 13. Botany deals with ... 14. Microbiology is the study of

Exercise 13 Are the following statements true or false?

1. Biology is the study of life in all of its grandeur. 2. Living things include the invisible world of animals and plants. 3. Energy from the environment is transformed to maintain metabolic processes. 4. Life can reproduce, adapt and respond. 5. Somatic changes are not reversible. 6. The foundation of biology is based on six basic principles. 7. Homeostasis is one of the basic principles of biology. 8. Zoology deals with plant studies. 9. Anatomy is a specialized subdiscipline of biology.

Exercise 14 Answer the following questions.

1. What is biology? 2. What do living things include? 3. What is the basic unit of life? 4. What can life do? 5. How many basic types of adaptations can occur in higher organisms? 6. What are these types? 7. When do reversible changes occur? 8. When do somatic changes occur? 9. How many principles is biology based on? 10. What are these principles? 11. What disciplines and subdisciplines of biology do you know?

Контрольная работа №3 (3 семестр)

Exercise 1 Read the given text, translate it into Russian and make your assignments.

What Do Biologists Do?

The levels of biological organization:

Biologists study every aspect of life at every level of its organization, from the atoms that make up biological molecules to the ecosystems that form the biosphere.

Here are the levels of biological organization from atoms, the smallest components of living things, to the biosphere, the entire living planet:

- *Biosphere*
- *Ecosystem*
- *Population*
- *Individual*
- *Organ system: digestive system*
- *Organ: stomach*
- *Tissue: smooth muscle*
- *Cell: smooth muscle cell*
- *Organelle: Mitochondrion*
- *Macromolecules: proteins*
- *Chemical building blocks or monomers: amino acid*
- *Atoms: carbon*

Aspects of biology:

Modern biology is an enormous subject that has many branches. Specialists in some branches include:

- molecular biologists and biochemists who work at the chemical level, with the aim of revealing how DNA, proteins, and other molecules are involved in biological processes;
- geneticists who study genes and their involvement in inheritance and development;
- cell biologists who study individual cells or groups of cells, often by culturing them outside organisms; they investigate how cells interact with each other and their environment;
- physiologists who find out how organ systems work in a healthy body;
- pathologists who study diseased and dysfunctional organs;
- ecologists who study interactions between organisms and their environment. Some focus their attention on whole organisms; others study populations, individuals of the same species living together at one location.

There are also biologists who specialize in particular groups of organisms; for example, bacteriologists study bacteria, botanists study plants, and zoologists study animals.

Biologists are employed in many fields including conservation and wildlife management, industry, health care, horticulture, agriculture, zoos, museums, information science, and marine and freshwater biology. In addition, many biologists are employed as teachers, lecturers, or research workers.

Exercise 2 Find English equivalents to the following word combinations from the text.

N	Russian term	English equivalent
1.	экосистемы, которые образуют биосферу	
2.	многие биологи работают учителями, преподавателями вузов или исследователями	
3.	наследственность	
4.	отрасль биологии	

5.	биолог, изучающий клетки	
6.	здоровый организм	
7.	ботаники изучают растения	
8.	зоологи изучают животных	
9.	взаимодействия между организмами и их окружением	
10.	пищеварительная система	

Exercise 3 Fill in the missing words.

Verb	Noun
employ
inherit
modify
observe
manage
predict
involve
discover
teach
contradict

Exercise 4 Fill in the missing words.

Area of science	Specialist
biology
.....	physiologist
zoology
pathology
.....	geneticist
ecology
.....	biochemist
.....	cell biologist
.....	bacteriologist
botany

Exercise 5 Form adjectives from the words.

dysfunction -

biology -

chemistry -

health - ...

Exercise 6 Answer the questions.

1. What do biologists study? 2. Which is the highest level of biological

organization on Earth? 3. What is the difference between a physiologist and a pathologist 4. What do geneticists study? 5. What biologists specialize in particular groups of organisms? 6. Where are biologists employed? 7. What careers in biology can you think of? 8. What areas of biology do you consider as the most important for human society nowadays? Give your reasons.

Exercise 7 Match specialists in biology in column A with areas of study in column B.

A	B
1. molecular biologists	a. plants
2. geneticists	b. work of organ systems in a healthy body
3. cell biologists	c. genes
4. pathologists	d. bacteria
5. physiologists	e. interactions between organisms and their environment
6. ecologists	f. DNA, proteins, and other molecules in biological processes
7. bacteriologists	g. diseased and dysfunctional organs
8. botanists	h. individual cells or groups of cells
9. zoologists	i. animals

Exercise 8 Read and translate the text.

Louis Pasteur

Pasteur (1822-1895) began his scientific career as a chemist, but it is because of his applications of germ theory to the prevention of disease that he became known as ‘The Father of Microbiology’.

Pasteur did not create germ theory, but he proved it to be correct. Once he had achieved this, he set about finding ways to prevent germs, the microorganisms present in the air, from infecting food and people.

He completed his famous experiment proving that microorganisms were present in the air while working for a wine company. He was trying to discover why wine sometimes went bad as it was being made. Once he had found the cause – microorganisms – he began to develop the process which carries his name – pasteurization. It was perfectly possible to kill all the microorganisms in food by boiling it, a process known as sterilization, but this damaged the taste and the quality of the food. Pasteur’s process killed not all, but most, of the microorganisms, with the result that the food needed to be kept cool and eaten or drunk within a limited time. Most importantly, the quality of the food was not harmed by the process. Much of the food we eat today is pasteurized.

His next achievement was to build on the discovery of the British scientist Edward Jenner. Many years earlier, Jenner had discovered a way of giving people resistance to the deadly disease smallpox, by injecting them with a similar disease that was found among cows. The process became known as vaccination. Pasteur

applied germ theory to his work and looked at samples of blood taken from healthy and infected animals. He grew bacteria in his laboratory and used it to infect animals. By chance, some of these germs failed to grow well in his laboratory; these weak germs were then used to infect some chickens. Although the chickens suffered at first, they made a complete recovery and could not be infected again. In this way he discovered a way of increasing resistance to disease. Pasteur developed vaccines for many serious diseases including cholera and anthrax. At that time, these illnesses were certain death for anyone who caught them.

Pasteur's discoveries revolutionized work on infectious diseases. Pasteur's vaccines were different from Jenner's in one important way. Jenner found a weak form of smallpox and transferred it to humans. Pasteur weakened the disease in a laboratory and immunized people with that weakened form. His success allowed a colleague to develop the first vaccine for rabies, which Pasteur used to save the life of a nine-year-old boy. By this act, Pasteur's position as a hero was assured.

Thanks to the work of Pasteur, we now live longer, our food stays fresh longer and we are less likely to die of disease. Indeed, smallpox is no longer found anywhere in the world, due to a huge vaccination programme carried out in the 20th century. This could never have happened without the scientific achievements of The Father of Microbiology.

Exercise 9 Answer the questions.

1. Why did Pasteur become known as 'The Father of Microbiology'? 2. Did Pasteur create germ theory? 3. What was his famous experiment? 4. What Pasteur's achievement was built on the discovery of the British scientist Edward Jenner? 5. What did Pasteur's discoveries revolutionize? 6. How have Pasteur's scientific achievements influenced our life?

Exercise 10 Read and translate the text.

Gregor Mendel

Gregor Mendel was born on 20th July, 1822, and died on 6th January, 1884. He was a biologist and botanist whose scientific research showed that inheritance proceeds according to certain scientific laws.

Mendel was a brilliant student and his family encouraged him to study, but they were very poor so Mendel entered a monastery in 1843. There he taught Mathematics, Physics and Greek to his school students. Eight years later, in 1851, the monastery sent him to the University of Vienna where he was able to continue his education. In 1853, he returned to the monastery and began teaching and researching again.

Mendel's theories of heredity based on his work with pea plants are well known to students of Biology. But his findings were so different from the accepted views on heredity at the time that his work was ignored until long after his death. His paper, 'Experiments in Plant Hybridisation', in which he described how traits were inherited, has become one of the most influential publications in the history of science.

Mendel was the first person to trace the characteristics of successive generations of an organism. In Mendel's day, a number of hypotheses had been suggested to explain heredity. The most popular one was the so-called *blending theory*. According to this theory, inherited traits blended from generation to generation. For instance, a red rose crossed with a white rose would, over time, produce a pink rose. Another theory put forward by Charles Darwin was called *pangenesis*. This stated that there were hereditary particles in our bodies, and that these particles were affected by our actions. The altered particles could be inherited by the next generation. These theories were disproved by Mendel.

The first thing he noticed when he began his experiments was that traits were inherited in certain numerical ratios. This observation led him to come up with the idea of the dominance of genes and he tested it in peas. For seven years he crossed thousands of plants to prove the Laws of Inheritance. From his experiments, Mendel developed the basic laws of heredity. Those laws are the following: that traits do not combine, but are passed whole from generation to generation (which disproved the blending theory and Darwin's theory); each member of the parental generation passes on only half of its hereditary information to each offspring (with certain traits dominant over others); and different offspring of the same parents receive different sets of hereditary information.

Mendel's research formed the beginning of the modern science of genetics. Genetic theory has had a huge impact on our lives. Many diseases, for example haemophilia, are known to be inherited, and family histories can be traced to determine the probability of passing on a hereditary disease. Scientists can now design plants that are easier to grow, or which can produce more food. This practical side of the results of Mendel's research is being used to improve the way we live.

Exercise 11 Answer the questions.

1. How did the blending theory explain heredity?
2. What did the pangenesis theory state?
3. What was the first thing that Mendel noticed when experimenting with peas?
4. How are characteristics passed on from generation to generation?
5. How does modern science change this? Why?

Exercise 12 Define the tense form of the predicates. Translate the sentences. Make one general and one special question to each sentence.

1. Cell biologists *study* individual cells or groups of cells.
2. Modern biology *has* many branches.
3. Biologists *are employed* in many fields.
4. He *was trying* to discover why wine sometimes *went* bad.
5. Pasteur *applied* germ theory to his work.
6. His work *was ignored* until long after his death.
7. Mendel *developed* the basic laws of heredity.
8. Genetic theory *has had* a huge impact on our lives.

Форма промежуточного контроля

Вопросы (задания) к зачету по дисциплине:

1. Демонстрация умений монологического высказывания по изученным темам и участие в диалогическом общении в пределах изучаемых тем.
2. Выполнение грамматических и лексических тестов.
3. Демонстрация умений чтения и извлечения информации без словаря/ со словарем в зависимости от целей чтения.
4. Представление презентаций по индивидуальным заданиям.

Зачет (1 семестр)

1. Сообщения на тему “My family”, “My University course”.
2. Выполнение грамматических и лексических тестов.

Зачет (2 семестр)

1. Сообщение на тему “Biology – the study of life”.
2. Выполнение грамматических и лексических тестов.

Презентация (3 семестр)

Find information about any famous biologist and his discoveries and make a presentation.

Экзамен (3 семестр)

Образец экзаменационного билета

БИЛЕТ № _____

Направление 44.03.01 Педагогическое образование,
профиль Биологическое образование

Дисциплина Иностранный язык

1. Найдите спецтекст по теме «Subdisciplines of biology».
Ознакомьтесь с его содержанием без словаря. Будьте готовы к беседе по тексту на изучаемом языке. Кратко передайте основное содержание текста и выразите свое отношение к полученной информации.
2. Письменно переведите со словарем на русский язык указанный фрагмент текста.

Учебно-методическое и информационное обеспечение дисциплины

Основная литература

1. Ломаев Б.Ф., Томских Г.П., Михина А.Э. English: Your Way. Практический курс английского языка. [Электронный учебник] – Чита, 2010. www.zabspu.ru (Moodle)
2. Практический курс английского языка “English: Your Way” [Текст]: учебное пособие / Б.Ф. Ломаев, Г.П. Томских, А.Э. Михина. – Чита: Экспресс-изд-во, 2008. – 268 с. (аб. 4 – 50 экз.)
3. Фонетический практикум по английскому языку – 2-е изд., испр. и доп. / Сост. Б.Ф. Ломаев, А.Э. Михина; Забайкл. гос. гум.-пед. ун-т. – Чита, 2007. – 76 с. (аб. 4 – 4 экз., ч.з. – 1)
4. Хведченя, Л. В. Английский язык. Базовый курс [Текст]: учебное пособие / Л. В. Хведченя. - Минск: Современная школа, 2009. - 558 с. (аб. 4 – 2 экз.)

Дополнительная литература

1. Бобылева С.В. Английский язык для экологов и биотехнологов [Текст] : учебное пособие для студентов, обучающихся по специальностям 240901 - "Биотехнология" и 280202 - "Инженерная защита окружающей среды" / С. В. Бобылёва, Д. Н. Жаткин. - М. : Флинта : Наука, 2008. - 191 с. (аб. 4 – 20 экз)
2. Кутепова М.М. Английский язык для химиков [Текст] = The World of Chemistry : учебник для студентов вузов / М. М. Кутепова. - М. : КДУ, 2006. - 254 с. - ISBN 5-98227-129-2 : 153 p. (аб. 4 – 10 экз)

Собственные учебные пособия

1. Гусевская Н.Ю., Ерёмина В.М. English for Science Students: учебное пособие / Забайкальский гос. гум.-пед. ун-т. – Чита, 2011. – 142 с. (аб. 4 – 4 экз.)

Базы данных, информационно-справочные и поисковые системы*

<i>№ п/п</i>	<i>Название сайта</i>	<i>Электронный адрес</i>
1	Изучение иностранных языков on-line	http://www.study.ru/
2	Ресурсы для изучения английского языка (учебники на русском и английском языке)	http://www.alleng.ru/english/engl.htm
3	Ресурсы для нахождения информации для презентации специальных текстов	http://www.macroevolution.net/famous-biologists.html#.VQqHQRq6C_Z http://www.biography.com/people/groups/scientists-biologists
4	Упражнения и тесты по английскому языку	http://www.englishjet.com/english_courses_files/resources.htm
5	Тесты по английскому языку	http://www.englishjet.com/english_courses_files/tests.htm
6	Грамматика английского языка	http://engblog.ru http://www.lovelylanguage.ru/grammar/tables http://study-english.info/grammar.php http://www.native-english.ru/grammar http://englishstyle.net/grammar/ http://engramm.su http://www.study.ru/support/handbook/

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