

МИНИСТЕРСТВО СЕЛЬСКОГО ХОЗЯЙСТВА РОССИЙСКОЙ ФЕДЕРАЦИИ  
Федеральное государственное бюджетное образовательное учреждение  
высшего образования  
«КУБАНСКИЙ ГОСУДАРСТВЕННЫЙ АГРАРНЫЙ УНИВЕРСИТЕТ  
имени И.Т. ТРУБИЛИНА»

Архитектурно-строительный факультет  
Иностранных языков

**РАБОЧАЯ ПРОГРАММА ДИСЦИПЛИНЫ (МОДУЛЯ)  
«ИНОСТРАННЫЙ ЯЗЫК. АНГЛИЙСКИЙ ЯЗЫК»**

Уровень высшего образования: бакалавриат

Направление подготовки: 08.03.01 Строительство

Направленность (профиль) подготовки: Промышленное и гражданское строительство

Квалификация (степень) выпускника: бакалавр

Формы обучения: очная, очно-заочная

Год набора: 2024

Срок получения образования:      Очная форма обучения – 4 года  
    Очно-заочная форма обучения – 5 лет

Объем:    в зачетных единицах: 6 з.е.  
    в академических часах: 216 ак.ч.



**Разработчики:**

Доцент, кафедра иностранных языков Батурьян М.А.

Рабочая программа дисциплины (модуля) составлена в соответствии с требованиями ФГОС ВО по направлению подготовки Направление подготовки: 08.03.01 Строительство, утвержденного приказом Минобрнауки России от 31.05.2017 №481, с учетом трудовых функций профессиональных стандартов: "Специалист по организации строительства", утвержден приказом Минтруда России от 21.04.2022 № 231н.

**Согласование и утверждение**

№	Подразделение или коллегиальный орган	Ответственное лицо	ФИО	Виза	Дата, протокол (при наличии)
1	Кубанский государственный аграрный университет	Руководитель образовательной программы	Голова Т.А.	Согласовано	12.09.2024

## **1. Цель и задачи освоения дисциплины (модуля)**

Цель освоения дисциплины - Целью освоения дисциплины «Иностранный язык» (английский) является формирование комплекса знаний об организационных, научных, методических и практических основах овладения немецким языком как средством межкультурной коммуникации в сфере аграрного производства для создания коммуникативной компетенции (формирование и развитие умений и навыков работы со специальной литературой, необходимой в профессиональной деятельности), лингвистической, социокультурной и социолингвистической компетенций.

Задачи изучения дисциплины:

- сформировать навыки, необходимые для овладения основными ресурсами для восполнения имеющихся пробелов в языковом образовании (типами словарей, справочников, компьютерных программ, информационных сайтов сети ИНТЕРНЕТ, текстовых редакторов и т.д.); ;
- сформировать навыки понимания основного содержания несложных аутентичных общественно-политических, публицистических и прагматических текстов;;
- сформировать умение начинать, вести/поддерживать и заканчивать диалог-расспрос об увиденном, прочитанном, диалог-обмен мнениями и диалог-интервью/собеседование при приеме на работу;;
- сформировать навыки, необходимые для заполнения формуляров и бланков прагматического характера; поддержания контактов при помощи электронной почты (писать электронные письма личного характера); оформления и сопроводительного письма, необходимого при приеме на работу;;
- ознакомить с зарубежным опытом в области сельского хозяйства путем получения информации профессионального содержания из зарубежных источников..

## **2. Планируемые результаты обучения по дисциплине (модулю), соотнесенные с планируемыми результатами освоения образовательной программы**

*Компетенции, индикаторы и результаты обучения*

УК-4 Способен осуществлять деловую коммуникацию в устной и письменной формах на государственном языке Российской Федерации и иностранном(ых) языке(ах)

УК-4.1 Выбирает на государственном и иностранном (-ых) языках коммуникативно приемлемые стиль делового общения, вербальные и невербальные средства взаимодействия с партнерами

*Знать:*

УК-4.1/Зн1 Методику выбора на государственном и иностранном (-ых) языках коммуникативно приемлемых стилей делового общения, вербальных и невербальных средств взаимодействия с партнерами

*Уметь:*

УК-4.1/Ум1 Выбирать на государственном и иностранном (-ых) языках коммуникативно приемлемые стили делового общения, вербальные и невербальные средства взаимодействия с партнерами.

*Владеть:*

УК-4.1/Нв1 Методикой выбора на государственном и иностранном (-ых) языках коммуникативно приемлемых стилей делового общения, вербальных и невербальных средств взаимодействия с партнерами

УК-4.2 Использует информационно- коммуникационные технологии при поиске необходимой информации в процессе решения стандартных коммуникативных задач на государственном и иностранном (- ых) языках

*Знать:*

УК-4.2/Зн1 Основы информационно-коммуникационных технологий при поиске необходимой информации в процессе решения стандартных коммуникативных задач на государственном и иностранном (-ых) языках

*Уметь:*

УК-4.2/Ум1 Использовать информационно-коммуникационные технологии при поиске необходимой информации в процессе решения стандартных коммуникативных задач на государственном и иностранном (-ых) языках

*Владеть:*

УК-4.2/Нв1 Информационно-коммуникационными технологиями при поиске необходимой информации в процессе решения стандартных коммуникативных задач на государственном и иностранном (-ых) языках

УК-4.3 Ведет деловую переписку, учитывая особенности стилистики официальных и неофициальных писем, социокультурные различия в формате корреспонденции на государственном и иностранном (-ых) языках

*Знать:*

УК-4.3/Зн1 Формы деловой переписки, учитывая особенности стилистики официальных и неофициальных писем, социокультурные различия в формате корреспонденции на государственном и иностранном (-ых) языках

*Уметь:*

УК-4.3/Ум1 Вести деловую переписку, учитывая особенности стилистики официальных и неофициальных писем, социокультурные различия в формате корреспонденции на государственном и иностранном (-ых) языках

*Владеть:*

УК-4.3/Нв1 Способностью вести деловую переписку, учитывая особенности стилистики официальных и неофициальных писем, социокультурные различия в формате корреспонденции на государственном и иностранном (-ых) языках.

УК-4.4 Демонстрирует интегративные умения использовать диалогическое общение для сотрудничества в академической коммуникации общения:

- внимательно слушая и пытаясь понять суть идей других, даже если они противоречат собственным воззрениям;
- уважая высказывания других как в плане содержания, так и в плане формы;
- критикуя аргументированно и конструктивно, не задевая чувств других;
- адаптируя речь и язык жестов к ситуациям взаимодействия

*Знать:*

УК-4.4/Зн1 Интегративные умения для использования диалогическое общение для сотрудничества в академической коммуникации общения.

*Уметь:*

УК-4.4/Ум1 Демонстрировать интегративные умения использовать диалогическое общение для сотрудничества в академической коммуникации общения.

*Владеть:*

УК-4.4/Нв1 Способностью интегративного умения использовать диалогическое общение для сотрудничества в академической коммуникации общения.

УК-4.5 Демонстрирует умение выполнять перевод профессиональных текстов с иностранного (-ых) на государственный язык и обратно

*Знать:*

УК-4.5/Зн1 Основы перевода профессиональных текстов с иностранного (-ых) на государственный язык и обратно.

*Уметь:*

УК-4.5/Ум1 Выполнять перевод профессиональных текстов с иностранного (-ых) на государственный язык и обратно.

*Владеть:*

УК-4.5/Нв1 Умениями по выполнению перевод профессиональных текстов с иностранного (-ых) на государственный язык и обратно.

### 3. Место дисциплины в структуре ОП

Дисциплина (модуль) «Иностранный язык» относится к обязательной части образовательной программы и изучается в семестре(ах): Очная форма обучения - 1, 2, Очно-заочная форма обучения - 1, 2.

В процессе изучения дисциплины студент готовится к видам профессиональной деятельности и решению профессиональных задач, предусмотренных ФГОС ВО и образовательной программой.

### 4. Объем дисциплины и виды учебной работы

#### Очная форма обучения

Период обучения	Общая трудоемкость (часы)	Общая трудоемкость (ЗЕТ)	Контактная работа (часы, всего)	Внеаудиторная контактная работа (часы)	Зачет (часы)	Лабораторные занятия (часы)	Самостоятельная работа (часы)	Промежуточная аттестация (часы)
Первый семестр	72	2	33	1		32	39	Зачет
Второй семестр	144	4	47	3		44	70	Экзамен (27)
Всего	216	6	80	4		76	109	27

#### Очно-заочная форма обучения

Период обучения	Общая трудоемкость (часы)	Общая трудоемкость (ЗЕТ)	Контактная работа (часы, всего)	Внеаудиторная контактная работа (часы)	Зачет (часы)	Лабораторные занятия (часы)	Лекционные занятия (часы)	Самостоятельная работа (часы)	Промежуточная аттестация (часы)
Первый семестр	72	2	23	1		18	4	49	Зачет
Второй семестр	144	4	21	3		18		96	Экзамен (27)
Всего	216	6	44	4		36	4	145	27

### 5. Содержание дисциплины

**5.1. Разделы, темы дисциплины и виды занятий**  
(часы промежуточной аттестации не указываются)

*Очная форма обучения*

Наименование раздела, темы	Всего	Внеаудиторная контактная работа	Лабораторные занятия	Самостоятельная работа	Планируемые результаты обучения, соответствующие результатам освоения программы
<b>Раздел 1. Домостроение в английском языке</b>	<b>71</b>		<b>32</b>	<b>39</b>	УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5
Тема 1.1. Test	2		2		
Тема 1.2. Building Construction	12		6	6	
Тема 1.3. Building Construction	10		4	6	
Тема 1.4. Jobs in Construction	10		4	6	
Тема 1.5. A living place.	10		4	6	
Тема 1.6. Building Materials.	13		6	7	
Тема 1.7. Building Science.	14		6	8	
<b>Раздел 2. Промежуточная аттестация</b>	<b>1</b>	<b>1</b>			УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5
Тема 2.1. Зачет	1	1			
<b>Раздел 3. Геодезия</b>	<b>114</b>		<b>44</b>	<b>70</b>	УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5
Тема 3.1. Structural Elements.	14		4	10	
Тема 3.2. Structural Engineering	20		8	12	
Тема 3.3. Surveying	20		8	12	
Тема 3.4. Foundations Of Buildings	20		8	12	
Тема 3.5. Buildings The Walls	20		8	12	
Тема 3.6. Finishing The Inside	20		8	12	
<b>Раздел 4. Промежуточная аттестация</b>	<b>3</b>	<b>3</b>			УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5
Тема 4.1. Экзамен	3	3			
<b>Итого</b>	<b>189</b>	<b>4</b>	<b>76</b>	<b>109</b>	

*Очно-заочная форма обучения*

Наименование раздела, темы	иторная контактная работа	торные занятия	нные занятия	оятельная работа	уемые результаты я, соответствующие атами освоения амы
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	Всего	Внеауд	Лабо­ра	Лек­цио	Самост	Планир обучени результ програ
<b>Раздел 1. Домостроение в английском языке</b>	<b>71</b>		<b>18</b>	<b>4</b>	<b>49</b>	УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5
Тема 1.1. Test	11		2	2	7	
Тема 1.2. Building Construction	11		2	2	7	
Тема 1.3. Building Construction	9		2		7	
Тема 1.4. Jobs in Construction	9		2		7	
Тема 1.5. A living place.	9		2		7	
Тема 1.6. Building Materials.	11		4		7	
Тема 1.7. Building Science.	11		4		7	
<b>Раздел 2. Промежуточная аттестация</b>	<b>1</b>	<b>1</b>				УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5
Тема 2.1. Зачет	1	1				
<b>Раздел 3. Геодезия</b>	<b>114</b>		<b>18</b>		<b>96</b>	УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5
Тема 3.1. Structural Elements.	18		2		16	
Тема 3.2. Structural Engineering	18		2		16	
Тема 3.3. Surveying	18		2		16	
Тема 3.4. Foundations Of Buildings	20		4		16	
Тема 3.5. Buildings The Walls	20		4		16	
Тема 3.6. Finishing The Inside	20		4		16	
<b>Раздел 4. Промежуточная аттестация</b>	<b>3</b>	<b>3</b>				УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5
Тема 4.1. Экзамен	3	3				
<b>Итого</b>	<b>189</b>	<b>4</b>	<b>36</b>	<b>4</b>	<b>145</b>	

## 5. Содержание разделов, тем дисциплин

### *Раздел 1. Домостроение в английском языке*

*(Очная: Лабораторные занятия - 32ч.; Самостоятельная работа - 39ч.; Очно-заочная: Лабораторные занятия - 18ч.; Лекционные занятия - 4ч.; Самостоятельная работа - 49ч.)*

#### *Тема 1.1. Test*

*(Очная: Лабораторные занятия - 2ч.; Очно-заочная: Лабораторные занятия - 2ч.; Лекционные занятия - 2ч.; Самостоятельная работа - 7ч.)*

Test

#### *Тема 1.2. Building Construction*

*(Очная: Лабораторные занятия - 6ч.; Самостоятельная работа - 6ч.; Очно-заочная: Лабораторные занятия - 2ч.; Лекционные занятия - 2ч.; Самостоятельная работа - 7ч.)*

Building Construction

#### *Тема 1.3. Building Construction*

*(Очная: Лабораторные занятия - 4ч.; Самостоятельная работа - 6ч.; Очно-заочная: Лабораторные занятия - 2ч.; Самостоятельная работа - 7ч.)*



## Building Construction

### *Тема 1.4. Jobs in Construction*

*(Очная: Лабораторные занятия - 4ч.; Самостоятельная работа - 6ч.; Очно-заочная: Лабораторные занятия - 2ч.; Самостоятельная работа - 7ч.)*

Jobs in Construction

### *Тема 1.5. A living place.*

*(Очная: Лабораторные занятия - 4ч.; Самостоятельная работа - 6ч.; Очно-заочная: Лабораторные занятия - 2ч.; Самостоятельная работа - 7ч.)*

A living place.

### *Тема 1.6. Building Materials.*

*(Очная: Лабораторные занятия - 6ч.; Самостоятельная работа - 7ч.; Очно-заочная: Лабораторные занятия - 4ч.; Самостоятельная работа - 7ч.)*

Building Materials.

### *Тема 1.7. Building Science.*

*(Очная: Лабораторные занятия - 6ч.; Самостоятельная работа - 8ч.; Очно-заочная: Лабораторные занятия - 4ч.; Самостоятельная работа - 7ч.)*

Building Science.

## **Раздел 2. Промежуточная аттестация**

***(Очная: Внеаудиторная контактная работа - 1ч.; Очно-заочная: Внеаудиторная контактная работа - 1ч.)***

### *Тема 2.1. Зачет*

*(Очная: Внеаудиторная контактная работа - 1ч.; Очно-заочная: Внеаудиторная контактная работа - 1ч.)*

Проверка знаний

## **Раздел 3. Геодезия**

***(Очная: Лабораторные занятия - 44ч.; Самостоятельная работа - 70ч.; Очно-заочная: Лабораторные занятия - 18ч.; Самостоятельная работа - 96ч.)***

### *Тема 3.1. Structural Elements.*

*(Очная: Лабораторные занятия - 4ч.; Самостоятельная работа - 10ч.; Очно-заочная: Лабораторные занятия - 2ч.; Самостоятельная работа - 16ч.)*

Structural Elements.

### *Тема 3.2. Structural Engineering*

*(Очная: Лабораторные занятия - 8ч.; Самостоятельная работа - 12ч.; Очно-заочная: Лабораторные занятия - 2ч.; Самостоятельная работа - 16ч.)*

Structural Engineering

### *Тема 3.3. Surveying*

*(Очная: Лабораторные занятия - 8ч.; Самостоятельная работа - 12ч.; Очно-заочная: Лабораторные занятия - 2ч.; Самостоятельная работа - 16ч.)*

Surveying

### *Тема 3.4. Foundations Of Buildings*

*(Очная: Лабораторные занятия - 8ч.; Самостоятельная работа - 12ч.; Очно-заочная: Лабораторные занятия - 4ч.; Самостоятельная работа - 16ч.)*

Foundations Of Buildings

### *Тема 3.5. Buildings The Walls*

*(Очная: Лабораторные занятия - 8ч.; Самостоятельная работа - 12ч.; Очно-заочная: Лабораторные занятия - 4ч.; Самостоятельная работа - 16ч.)*

Buildings The Walls

### *Тема 3.6. Finishing The Inside*

*(Очная: Лабораторные занятия - 8ч.; Самостоятельная работа - 12ч.; Очно-заочная: Лабораторные занятия - 4ч.; Самостоятельная работа - 16ч.)*

Finishing The Inside

## **Раздел 4. Промежуточная аттестация**

***(Очная: Внеаудиторная контактная работа - 3ч.; Очно-заочная: Внеаудиторная контактная работа - 3ч.)***

### *Тема 4.1. Экзамен*

*(Очная: Внеаудиторная контактная работа - 3ч.; Очно-заочная: Внеаудиторная контактная работа - 3ч.)*

Итоговая проверка знаний

## **6. Оценочные материалы текущего контроля**

### **Раздел 1. Домостроение в английском языке**

*Форма контроля/оценочное средство: Задача*

*Вопросы/Задания:*

1. He gave me ... message for you.

the

an

-

a

2. ... road past the church was quiet.

... road past the church was quiet.

3. Put the words in the right order:

There

are

some

pictures

in

the

book

4. Are there ... new students in your group?

any

anything

no

anybody

5. I expressed exactly ... same point of view.

I expressed exactly ... same point of view.

6. Put the words in the right order:

People  
need  
some  
oxygen  
for  
breathing

7. I haven't got a dictionary. Can you give me ...?

us  
yours  
their  
her

8. What have ... brought from England?

she  
it  
he  
you

9. ... number of reporters were at the conference yesterday

... number of reporters were at the conference yesterday

10. ... number of applicants have already been interviewed.

... number of applicants have already been interviewed.

11. Stella liked her job in London and she is hoping to find ... same sort of job in Newcastle.

the  
this

-

a

12. They found ... in a difficult situation.

herself  
himself  
themselves  
ourselves

## **Раздел 2. Промежуточная аттестация**

*Форма контроля/оценочное средство:*

*Вопросы/Задания:*

.

## **Раздел 3. Геодезия**

*Форма контроля/оценочное средство: Задача*

*Вопросы/Задания:*

1. The three main components of the Digital economy are:

wholesale  
e-business  
e-business infrastructure  
e-commerce

2. Which of these statements refer to Big Data?

huge in volume, consisting of terabytes or petabytes of data;  
high in velocity, being created in or near real time;  
exhaustive in scope, striving to capture entire populations or systems;  
limited in access, can be reached by a small group of professionals

3. Put the words in the right order:

Mentimeter

is  
a  
Swedish  
company  
that  
develops  
app  
used  
to create  
presentations  
with  
real-time  
feedback.

4. What is Kahoot!?

What is Kahoot!?

5. Which report helps decision makers select the best course of action

short report  
essential report  
long report  
feasibility report

6. Which type of report is submitted to find causes of a problem?

performance appraisal  
investigation  
progress  
inspection

7. What does the communication process not require?

encoding  
recruiting  
a channel  
decoding

8. What kind of document is commonly used for communication within a company?

Memo  
Manual  
Proposal  
Research Report

9. Match the antonyms:

generous=mean  
far=close  
absent=present  
before=after  
attend=miss

10. Match the antonyms:

many=few  
little=much  
upset=happy  
ugly=beautiful  
strong=weak

11. Match the synonyms:

country=state  
tradition=custom  
special=distinct  
negotiation= meeting  
help=assist

12. Match the synonyms:

busy= engaged

laugh=roar

violence= disorder

replace=shift

fix=mend

#### ***Раздел 4. Промежуточная аттестация***

*Форма контроля/оценочное средство:*

*Вопросы/Задания:*

.

### **7. Оценочные материалы промежуточной аттестации**

*Очная форма обучения, Первый семестр, Зачет*

*Контролируемые ИДК: УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5*

*Вопросы/Задания:*

1. How did building construction begin?
2. What does a construction process involve?
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25. What factors does the color of clay bricks depend on?
26. What is oversize brick called?
27. What materials is concrete made from?
28. What materials is reinforced concrete made from?
29. What aggregates are used in modern concrete?
30. What did glass as a building material provide people with?

*Очная форма обучения, Второй семестр, Экзамен*

*Контролируемые ИДК: УК-4.1 УК-4.2 УК-4.3 УК-4.4 УК-4.5*

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31. What do you know about the use of plastics for construction purposes?
32. What type of buildings is metal used for?
33. What insulation materials are used in the buildings?
34. What is building science?

35. What is strength of materials?
36. What kinds of stresses do you know?
37. What is elasticity? What is the definition of modulus of elasticity?
38. What is nanotechnology? What will construction benefit from nanotechnology?
39. What structural shapes do you know?
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51. How is brick masonry produced?
52. How is Flemish bond created?
53. What are ties used for?
54. Why are ties expensive?
55. Where do we apply space-division systems?
56. What may office buildings contain?
57. What is the term drywall used for?
58. What are drywall fasteners used for? What is their function?



59. What does plasterwork refer to? Why is plasterwork regarded as one of the most ancient of building techniques?

60. What were the plasterer's tools in Egypt?

61. Текст 1

Architecture is the art which makes buildings beautiful to look at as well as useful. A man who designs building and makes the plans for them is called an architect. He has to think not only of what he wants the building to look like when it is finished, but also what it is to be used for. He must not forget the sort of material to be used in the building.

There have been many different styles or kinds of architecture in the past and there are many different styles today in different parts of the world.

The oldest monuments which are met within architecture are the colossal pyramids of Egypt most of which were constructed about 6,000 years ago.

The pyramids are large triangular buildings which were placed over the tombs of Egyptian kings. The best known of the pyramids are a group of three built at Giza south of Cairo. The largest of these is 482 feet high. They tell us of the advanced civilization of ancient Egypt which is much spoken about ever in our days.

It was a country which had expert mathematicians and engineers, where astronomy and philosophy were known and studied.

The country was rich in hard and durable stone, but poor in timber and metal, so that the main material used for construction was granite, and this was the reason for the durability of the pyramids.

Large blocks of stone were transported over long distances by land and water, and placed into position with the help of the most primitive equipment. That was done by slaves working for thirty or forty years.

62. Текст 2

The cost of a project is influenced by the requirements of the design and the specifications. Prior to completing the final design the engineer should give careful consideration to the methods and equipment which may be used to construct the project. Requirements which increase the cost without producing commensurate benefits should be eliminated.

The ultimate decisions of the engineer should be based on a reasonable knowledge of construction methods and costs. The following are indicative of methods which an engineer may use to reduce the costs of construction:

1. Design concrete structures with as many duplicate members as practical in order to permit the reuse of forms without rebuilding.
2. Simplify the design of the structure where possible.
3. Design for the use of cost-saving equipment and methods.
4. Eliminate unnecessary special construction requirements.
5. Design to reduce the required labor to a minimum.
6. Specify a quality of workmanship that is consistent with the quality of the project.
7. Furnish adequate foundation information where possible.
8. Refrain from requiring the contractor to assume the responsibility for information that should be furnished by the engineer or for adequacy of design.
9. Use local materials when they are satisfactory.
10. Use standardized specifications, with which the contractors are familiar, where possible.

63. Текст 3

The rationale behind the new ring road, according to designers, is to relieve traffic congestion in the downtown area, including on the Garden Ring Road. The third beltway will divert 20 percent of the 7,000 to 8,000 vehicles that hourly pass through the Garden Ring Road.

Yuri Korotkov, chief engineer of the Moscow General Plan R&D Institute, believes that there is no alternative to the Third Ring project: Unless it is built, people will have to be prevented from buying cars or else access to some parts of the city will have to be severely restricted. "The motor vehicle-to-family ratio in the city is the same as in Europe while our road infrastructure is two three

times smaller". Still, he admits that the Third Ring Road will not be able to put an end to the problem of traffic jams in the capital city once and for all: "It would, allow us for some time to keep the traffic along the Garden Ring Road more or less at its current level. But afterward we will have to regulate traffic flows (for example, by offering incentives to use public transport in downtown areas), just as is being done elsewhere in Europe.

Generally, the Third Ring project appears most people-friendly. It provides for such things as noise-proof screens, air conditioning in the tunnels, antifreeze additives to the asphalt, and a closed-circuit security system along the entire stretch of the road.

#### 64. Текст 4

An outstanding statesman once said in his speech, "There can be little doubt that in many ways the story of bridge-building is the story of civilization. By it we can readily measure an important part of a people's progress". Great rivers are important means of communication, for in many parts of the world they have been, and still are, the chief roads. But they are also barriers to communication, and people have always been concerned with finding ways to cross them.

For hundreds of years men have built bridges over fast-flowing rivers or deep and rocky canyons. Early man probably got the idea of a bridge from a tree fallen across a stream. From this at a later stage, a bridge on a very simple bracket or cantilever principle was evolved. Timber beams were embedded into the banks on each side of the river with their ends extending over the water. These made simple supports for a central beam reaching across from one bracket to the other. Bridges of this type are still used in Japan, and in India. A simple bridge on the suspension principle was made by early man by means of ropes, and is still used in countries such as Tibet. Two parallel ropes suspended from rocks or trees on each bank of the river, with a platform of woven mats laid across them, made a secure crossing. Further ropes as handrails were added. When the Spaniards reached South America, they found that the Incas of Peru used suspension bridges made of six strong cables, four of which supported a platform and two served as rails.

#### 65. Текст 5

The idea of driving wooden piles into the bed of the river in order to support a platform was put into practice 3,500 years ago. This is the basis of the pile bridge which makes it possible to build a wider crossing easier for the transport of animals and goods.

With the coming of the railway in the 19th century there was a great demand for bridges, and the railways had capital for building them. The first railway bridges were built of stone or brick. In many places long lines of viaducts were built to carry railways; for instance, there are miles of brick viaducts supporting railways to London.

The next important development in bridge-building was the use of iron and, later, steel. The first iron bridge crossed the river Severn in Great Britain.

The idea of a drawbridge, a bridge hinged so that it can be lifted by chains from inside to prevent passage, is an old one. Some St. Pet

#### 66. Текст 6

Connecting the Isles of Great Britain to mainland Europe is a fantasy that can be dated back nearly 200 years.

We can name very few projects against which there existed a deeper and more powerful prejudice than the construction of a railway tunnel between Dover and Calais.

The objections have been cultural, political and, of course, military. The British government objected to the scheme mainly because they thought that the enemy could easily invade England through such a tunnel.

The first suggestion to construct a tunnel came from Napoleon in 1800. His engineers even drafted a tunnel plan, but Britain and France were at war at that time.

In 1988 the question of a Channel Tunnel was studied afresh by a group of French and British engineers and the work actually began. They agreed to start boring for the European tunnel on both English and French Coasts.

The Tunnel runs under the sea through a layer of dense chalk which is known to be free of cracks and allows water to penetrate it slowly.

The work proceeded very quickly and was successfully completed in about six years. The Tunnel was opened to traffic on May 7, 1994.

Two main tunnels, with service tunnel between, carry one-way rail traffic.

Original estimate was 7.2 billion dollars at current exchange rates, but cost to date is 13.1 billion dollars shared between Britain, France and other investors. So far the project is not quite profitable and still needs more investments.

#### 67. Текст 7

Planning, or town and country planning, is the control of the locations of towns, of industry, shops, housing, railways, parks, schools, universities and of the roads and railways to them. Zoning means the planning decisions which have been made and drawn out on maps, showing which area or zone is for heavy or light industry or for housing or so on.

There are many professions among practicing planners, including lawyers, architects, agriculturists, economists, scientists, public health doctors and engineers. A civil engineer is probably the most suitable person to locate a town site, apart from such purely civil engineering structures as reservoirs, railways, roads and so on, which only a civil engineer can locate.

The past growth of the population must be studied carefully with all known plans for future industrial development for at least the next twenty-five years, so as to predict with some accuracy the population growth. It is also helpful to know, based on the last count of the population, what its age grouping is. The water engineers and sewage treatment engineers of any area will, the planners, be particularly interested in any forecasts of population growth.

Most towns today have a characteristic functional pattern as follows: a central core containing the principal shopping centre, business zones, surrounded, by suburbs of houses: Most town planners accept the traditional town pattern.

#### 68. Текст 8

A structure is the part of a building that carries its weight, and for at least half the world's civil engineers, structures are most of civil engineering. We should also remember that anything built is a structure. (From an airplane engineer's point of view, an airplane also is a structure.) A structure may be a dwelling house, or a pyramid in Egypt, or a built by beavers across a Canadian river. A building is a structure with a roof and much of civil engineering structural design is the design of building structures. The building as a whole is designed by an architect, particularly in a densely populated area. Every "structural" design includes the foundation design. The structural design itself includes two different tasks, the design of the structure, in which the sizes and locations of the main members are settled, and the analysis of this structure by mathematical or graphical methods or both, to work out how the loads pass through the structure with the particular members chosen. For a common structure, such as a building frame, many methods have been developed for analysis, so that the design and analysis will be relatively easy and may need to be performed only once or twice.

But for any unusual structure the tasks of design and analysis will have to be repeated many times until, after many calculations, a design has been found, that is, strong, stable and lasting.

#### 69. Текст 9

Of the various Portland cements, the following varieties are now generally available:

- a) Ordinary Portland cement, the cheapest,
- b) Rapid-hardening cement, which is slightly more expensive because it is ground rather finer and is thus more chemically active,
- c) Sulphate-resisting cement which has a special chemical composition to resist sulphates, and can be used in ground which contains them,
- d) Air-entraining for building roads which may suffer from frost damage,
- e) Low-heat cement for massive construction such as dams where the speed at which the heat is given off must be reduced, and slow development of strength does not matter.

These are the main Portland cements. A different cement, which should be mentioned, is high-alumina cement. High-alumina cement is usually black, unlike Portland which is grey; but it reaches a "Portland 28-day" strength in twenty-four hours with correspondingly high heating and it must therefore not be cast in masses which are thicker than 60 cm. This common high-alumina cement costs roughly three times as much as Portland. Another high-alumina cement which is used for furnace linings is white; it is several times more expensive even than the black variety. White Portland cement is also obtainable; it is more expensive than ordinary. It is used for making white concrete or for painting or plastering concrete.

## 70. Текст 10

Earthwork or earth-moving means cutting into ground where its surface is too high, and dumping the earth in other places where the surface is too low.

Because earth-moving methods and costs change more quickly than those in any other branch of civil engineering, this is a field where there are real opportunities for the enthusiast. In 1935 most of the methods now in use for carrying and excavating earth with rubber-tired equipment did not exist. Most earth was moved by narrow rail track, now relatively rare, and the main methods of excavation, with face shovel, backacter, or dragline or grad, though they are still widely used, are only a few of the many current methods. At that time, the main power for excavators was steam from the coal-fired, now out of use even in Britain where coal is plentiful. Internal-combustion engines are now used everywhere except on sites where electricity is available.

To keep his knowledge of earth-moving equipment up-to-date an engineer must therefore spend time studying modern machines and must seriously reconsider any methods more than a few years old. Generally, the only reliable up-to-date information on excavators, loaders and then sport is obtainable from the makers.

To reduce earthwork costs, the volume of the fills should be equal to the volume of the cuts and wherever possible the cuts should be placed near to fills of equal volume so as to reduce transport and double handling of the fill

## 71. Текст 11

A water supply may be obtained from surface water or from underground water or both. Both are refilled by the rainfall, the surface water by the run-off, and the springs or wells by the water which enters the ground, the infiltration water. These two quantities, plus the evaporation water and the water used by the trees and plants, make up the total rainfall. Even if the community water supply includes all the springs as well as all the surface water in the area, it still does not obtain all the rainfall because of evaporation and the needs of plant life.

A water supply for a town usually includes a storage reservoir at the source of the supply, a pipeline from the storage reservoir to the distribution reservoir near the town, and finally the distribution pipes buried in the streets, taking the water to the houses, shops, factories, and offices. The main equipment is thus the two reservoirs and the pipeline between them. The function of the storage reservoir is to keep enough water over one or several years to provide for all high demands in dry periods, and the distribution reservoir has the same function for the day or the week. The storage reservoir by its existence allows the supply sources to be smaller and less expensive, and the distribution reservoir similarly allows the pipeline and pumps to be smaller and cheaper than they would be if it did not exist.

Sewerage systems are either “separate” or “combined”.

## 72. Текст 12

It was Napoleon Bonaparte who first suggested that a tunnel be built under the English Channel between France and Britain. Several proposals are being studied now, including a bridge, a tunnel or a combination.

The tunnel would be prefabricated and laid on the seabed and would carry two rail-lines underwater. Critics say that ventilation shafts would be needed every three or four miles and that they would create problems for shipping in the channel. Another plan is to construct a suspension bridge carrying 12 lanes or auto traffic and encased in a waterproof plastic tube. Some companies propose an open deck suspension bridge with spans of about 2,000 yards. It would cost half as much as the bridge in a plastic tube but it would present shipping dangers.

Many transportation authorities believe that the most likely government recommendation will be a rail tunnel under the seabed. It will be six meters in diameter and would cost about 2 billion pounds. It will combine the advantages of a tunnel and a bridge. It will cause the least damage to the environment, it doesn't need any ventilation and will require no new technology.

Civil engineering is claimed to be “the art of directing the great sources of power it nature for the use and convenience of man”. The past played by civil engineers in pioneering work and in developing wide areas of the world has been and continues to be enormous.

## 73. Текст 13

Russia has always been famous for its Lack of hard-surface roads. If the Roman Empire built store

roads throughout its provinces to hold it together both militarily and commercially, Imperia Russia failed to follow suit in the more than two hundred years of its existence, and so did the Communist Empire with its seventy years of misrule. Napoleon's Grande Army was defeated by General Mud before it was finished off by General Winter. The Germans had a similar experience in Russia during World War II, and lost vehicles and artillery pieces left over-night on the roads, when temperatures plunged and the mud froze into solid rock. Russia's problem is that it is mostly located on a huge plain with little stone, gravel, or sand, and the plain turns into an ocean of mud in spring, fall, and during any strong rains in-between. Of course, problems with mud exist in other countries as well, but nowhere is the problem so acute. In Czarist times, building and up keeping roads was one of the peasants' most difficult chores, and often roads consisted of wooden logs, which made for a rather bumpy ride, and this kind of road had to be replaced every so often because the logs rotted. Some city dwellers wrongly believe that the problem only minor inconvenience from traveling on dirt roads. Nothing can be further from the truth. Horses are terrified of mud and for good reason. They can easily, break their legs in thick mud or sink into a bog so deep it is impossible to extract them.

#### 74. ТЕКСТ 14

Right in the centre of the Russian city of Vladimir. 180 km to the east of Moscow, stands a building constructed by a US company Serendipity whose president is Ronald Pope. The building was designed as a business centre and is also expected to accommodate Russian and English language courses for Russian and foreign business people. By Russian standards, the two-storey building, garage and numerous other facilities were built with lightning speed. The construction, when was started in mid-May, was completed by July to American Independence Day.

The project financed partly by the company and partly by US charity funds, should serve as an example to medium-sized business in Russian provinces. The company does not expect to recover immediately the 80,000 dollars it invested in the project. As for American construction workers, they worked at the site for free. According to Pope, his own American house cost him less to build. All the necessary materials for the building in Vladimir, except concrete, were shipped to Vladimir from Florida.

Despite strong resistance from the local authorities who feared that the city's historical centre, the US company was greatly by Russian's commercial instructions, such as local banks offering loans.

Ronald Pope knows that further problems lie ahead, yes he is not going to give up promoting business in Russian provinces and is nurturing hopes for bigger projects.

#### 75. ТЕКСТ 15

New buildings tasks are caused by rapidly increasing need for buildings all over the world for all living areas – living, working, servicing, sport and free time.

These buildings are required as housing that can be quickly and perfectly constructed, or for public buildings, offices or industrial purposes.

Like every other branch of industry, the construction industry is under great pressure to rationalize and industrialize its building activities as far as possible.

This principle includes:

- the use of high-quality materials and components;
- industrially repeated production processes;
- specialization in production and the division of labour;
- a concentration of the production process in resident firms;
- constant quality control;
- the mechanization of the production process.

These are the pre-conditions to guarantee a constant high quality with fixed costs for the BISON-housing elements.

BISON construction boards with the traditional BISON quality, which are continually subjected to official testing, have already proved their suitability at many buildings sites all over the world. They are ever employed in extreme climatic zones – from the polar circle to the Sahara – as well as in areas where earthquakes occur.

This construction system is based on module arrangement adapted to the dimensions of the boards, and permits a large degree of flexibility with regard to function and comfort.

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*Очно-заочная форма обучения, Второй семестр, Экзамен*  
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57. What is the term drywall used for?
58. What are drywall fasteners used for? What is their function?
59. What does plasterwork refer to? Why is plasterwork regarded as one of the most ancient of building techniques?
60. What were the plasterer's tools in Egypt?

61. Текст 1

Architecture is the art which makes buildings beautiful to look at as well as useful. A man who designs building and makes the plans for them is called an architect. He has to think not only of what he wants the building to look like when it is finished, but also what it is to be used for. He must not forget the sort of material to be used in the building.

There have been many different styles or kinds of architecture in the past and there are many different styles today in different parts of the world.

The oldest monuments which are met within architecture are the colossal pyramids of Egypt most of which were constructed about 6,000 years ago.

The pyramids are large triangular buildings which were placed over the tombs of Egyptian kings. The best known of the pyramids are a group of three built at Giza south of Cairo. The largest of these

is 482 feet high. They tell us of the advanced civilization of ancient Egypt which is much spoken about even in our days.

It was a country which had expert mathematicians and engineers, where astronomy and philosophy were known and studied.

The country was rich in hard and durable stone, but poor in timber and metal, so that the main material used for construction was granite, and this was the reason for the durability of the pyramids.

Large blocks of stone were transported over long distances by land and water, and placed into position with the help of the most primitive equipment. That was done by slaves working for thirty or forty years.

#### 62. Текст 2

The cost of a project is influenced by the requirements of the design and the specifications. Prior to completing the final design the engineer should give careful consideration to the methods and equipment which may be used to construct the project. Requirements which increase the cost without producing commensurate benefits should be eliminated.

The ultimate decisions of the engineer should be based on a reasonable knowledge of construction methods and costs. The following are indicative of methods which an engineer may use to reduce the costs of construction:

1. Design concrete structures with as many duplicate members as practical in order to permit the reuse of forms without rebuilding.
2. Simplify the design of the structure where possible.
3. Design for the use of cost-saving equipment and methods.
4. Eliminate unnecessary special construction requirements.
5. Design to reduce the required labor to a minimum.
6. Specify a quality of workmanship that is consistent with the quality of the project.
7. Furnish adequate foundation information where possible.
8. Refrain from requiring the contractor to assume the responsibility for information that should be furnished by the engineer or for adequacy of design.
9. Use local materials when they are satisfactory.
10. Use standardized specifications, with which the contractors are familiar, where possible.

#### 63. Текст 3

The rationale behind the new ring road, according to designers, is to relieve traffic congestion in the downtown area, including on the Garden Ring Road. The third beltway will divert 20 percent of the 7,000 to 8,000 vehicles that hourly pass through the Garden Ring Road.

Yuri Korotkov, chief engineer of the Moscow General Plan R&D Institute, believes that there is no alternative to the Third Ring project: Unless it is built, people will have to be prevented from buying cars or else access to some parts of the city will have to be severely restricted. "The motor vehicle-to-family ratio in the city is the same as in Europe while our road infrastructure is two three times smaller". Still, he admits that the Third Ring Road will not be able to put an end to the problem of traffic jams in the capital city once and for all: "It would, allow us for some time to keep the traffic along the Garden Ring Road more or less at its current level. But afterward we will have to regulate traffic flows (for example, by offering incentives to use public transport in downtown areas), just as is being done elsewhere in Europe.

Generally, the Third Ring project appears most people-friendly. It provides for such things as noise-proof screens, air conditioning in the tunnels, antifreeze additives to the asphalt, and a closed-circuit security system along the entire stretch of the road.

#### 64. Текст 4

An outstanding statesman once said in his speech, "There can be little doubt that in many ways the story of bridge-building is the story of civilization. By it we can readily measure an important part of a people's progress". Great rivers are important means of communication, for in many parts of the world they have been, and still are, the chief roads. But they are also barriers to communication, and people have always been concerned with finding ways to cross them.

For hundreds of years men have built bridges over fast-flowing rivers or deep and rocky canyons. Early man probably got the idea of a bridge from a tree fallen across a stream. From this at a later

stage, a bridge on a very simple bracket or cantilever principle was evolved. Timber beams were embedded into the banks on each side of the river with their ends extending over the water. These made simple supports for a central beam reaching across from one bracket to the other. Bridges of this type are still used in Japan, and in India. A simple bridge on the suspension principle was made by early man by means of ropes, and is still used in countries such as Tibet. Two parallel ropes suspended from rocks or trees on each bank of the river, with a platform of woven mats laid across them, made a secure crossing. Further ropes as handrails were added. When the Spaniards reached South America, they found that the Incas of Peru used suspension bridges made of six strong cables, four of which supported a platform and two served as rails.

#### 65. Текст 5

The idea of driving wooden piles into the bed of the river in order to support a platform was put into practice 3,500 years ago. This is the basis of the pile bridge which makes it possible to build a wider crossing easier for the transport of animals and goods.

With the coming of the railway in the 19th century there was a great demand for bridges, and the railways had capital for building them. The first railway bridges were built of stone or brick. In many places long lines of viaducts were built to carry railways; for instance, there are miles of brick viaducts supporting railways to London.

The next important development in bridge-building was the use of iron and, later, steel. The first iron bridge crossed the river Severn in Great Britain.

The idea of a drawbridge, a bridge hinged so that it can be lifted by chains from inside to prevent passage, is an old one. Some St. Pet

#### 66. Текст 6

Connecting the Isles of Great Britain to mainland Europe is a fantasy that can be dated back nearly 200 years.

We can name very few projects against which there existed a deeper and more powerful prejudice than the construction of a railway tunnel between Dover and Calais.

The objections have been cultural, political and, of course, military. The British government objected to the scheme mainly because they thought that the enemy could easily invade England through such a tunnel.

The first suggestion to construct a tunnel came from Napoleon in 1800. His engineers even drafted a tunnel plan, but Britain and France were at war at that time.

In 1988 the question of a Channel Tunnel was studied afresh by a group of French and British engineers and the work actually began. They agreed to start boring for the European tunnel on both English and French Coasts.

The Tunnel runs under the sea through a layer of dense chalk which is known to be free of cracks and allows water to penetrate it slowly.

The work proceeded very quickly and was successfully completed in about six years. The Tunnel was opened to traffic on May 7, 1994.

Two main tunnels, with service tunnel between, carry one-way rail traffic.

Original estimate was 7.2 billion dollars at current exchange rates, but cost to date is 13.1 billion dollars shared between Britain, France and other investors. So far the project is not quite profitable and still needs more investments.

#### 67. Текст 7

Planning, or town and country planning, is the control of the locations of towns, of industry, shops, housing, railways, parks, schools, universities and of the roads and railways to them. Zoning means the planning decisions which have been made and drawn out on maps, showing which area or zone is for heavy or light industry or for housing or so on.

There are many professions among practicing planners, including lawyers, architects, agriculturists, economists, scientists, public health doctors and engineers. A civil engineer is probably the most suitable person to locate a town site, apart from such purely civil engineering structures as reservoirs, railways, roads and so on, which only a civil engineer can locate.

The past growth of the population must be studied carefully with all known plans for future industrial development for at least the next twenty-five years, so as to predict with some accuracy the population growth. It is also helpful to know, based on the last count of the population, what its age

grouping is. The water engineers and sewage treatment engineers of any area will, the planners, be particularly interested in any forecasts of population growth.

Most towns today have a characteristic functional pattern as follows: a central core containing the principal shopping centre, business zones, surrounded, by suburbs of houses: Most town planners accept the traditional town pattern.

#### 68. Текст 8

A structure is the part of a building that carries its weight, and for at least half the world's civil engineers, structures are most of civil engineering. We should also remember that anything built is a structure. (From an airplane engineer's point of view, an airplane also is a structure.) A structure may be a dwelling house, or a pyramid in Egypt, or a built by beavers across a Canadian river. A building is a structure with a roof and much of civil engineering structural design is the design of building structures. The building as a whole is designed by an architect, particularly in a densely populated area. Every "structural" design includes the foundation design. The structural design itself includes two different tasks, the design of the structure, in which the sizes and locations of the main members are settled, and the analysis of this structure by mathematical or graphical methods or both, to work out how the loads pass through the structure with the particular members chosen. For a common structure, such as a building frame, many methods have been developed for analysis, so that the design and analysis will be relatively easy and may need to be performed only once or twice.

But for any unusual structure the tasks of design and analysis will have to be repeated many times until, after many calculations, a design has been found, that is, strong, stable and lasting.

#### 69. Текст 9

Of the various Portland cements, the following varieties are now generally available:

- a) Ordinary Portland cement, the cheapest,
- b) Rapid-hardening cement, which is slightly more expensive because it is ground rather finer and is thus more chemically active,
- c) Sulphate-resisting cement which has a special chemical composition to resist sulphates, and can be used in ground which contains them,
- d) Air-entraining for building roads which may suffer from frost damage,
- e) Low-heat cement for massive construction such as dams where the speed at which the heat is given off must be reduced, and slow development of strength does not matter.

These are the main Portland cements. A different cement, which should be mentioned, is high-alumina cement. High-alumina cement is usually black, unlike Portland which is grey; but it reaches a "Portland 28-day" strength in twenty-four hours with correspondingly high heating and it must therefore not be cast in masses which are thicker than 60 cm. This common high-alumina cement costs roughly three times as much as Portland. Another high-alumina cement which is used for furnace linings is white; it is several times more expensive even than the black variety. White Portland cement is also obtainable; it is more expensive than ordinary. It is used for making white concrete or for painting or plastering concrete.

#### 70. Текст 10

Earthwork or earth-moving means cutting into ground where its surface is too high, and dumping the earth in other places where the surface is too low.

Because earth-moving methods and costs change more quickly than those in any other branch of civil engineering, this is a field where there are real opportunities for the enthusiast. In 1935 most of the methods now in use for carrying and excavating earth with rubber-tyred equipment did not exist. Most earth was moved by narrow rail track, now relatively rare, and the main methods of excavation, with face shovel, backacter, or dragline or grad, though they are still widely used, are only a few of the many current methods. At that time, the main power for excavators was steam from the coal-fired, now out of use even in Britain where coal is plentiful. Internal-combustion engines are now used everywhere except on sites where electricity is available.

To keep his knowledge of earth-moving equipment up-to-date an engineer must therefore spend time studying modern machines and must seriously reconsider any methods more than a few years old. Generally, the only reliable up-to-date information on excavators, loaders and then sport is obtainable from the makers.

To reduce earthwork costs, the volume of the fills should be equal to the volume of the cuts and

wherever possible the cuts should be placed near to fills of equal volume so as to reduce transport and double handling of the fill

#### 71. Текст 11

A water supply may be obtained from surface water or from underground water or both. Both are refilled by the rainfall, the surface water by the run-off, and the springs or wells by the water which enters the ground, the infiltration water. These two quantities, plus the evaporation water and the water used by the trees and plants, make up the total rainfall. Even if the community water supply includes all the springs as well as all the surface water in the area, it still does not obtain all the rainfall because of evaporation and the needs of plant life.

A water supply for a town usually includes a storage reservoir at the source of the supply, a pipeline from the storage reservoir to the distribution reservoir near the town, and finally the distribution pipes buried in the streets, taking the water to the houses, shops, factories, and offices. The main equipment is thus the two reservoirs and the pipeline between them. The function of the storage reservoir is to keep enough water over one or several years to provide for all high demands in dry periods, and the distribution reservoir has the same function for the day or the week. The storage reservoir by its existence allows the supply sources to be smaller and less expensive, and the distribution reservoir similarly allows the pipeline and pumps to be smaller and cheaper than they would be if it did not exist.

Sewerage systems are either “separate” or “combined”.

#### 72. Текст 12

It was Napoleon Bonaparte who first suggested that a tunnel be built under the English Channel between France and Britain. Several proposals are being studied now, including a bridge, a tunnel or a combination.

The tunnel would be prefabricated and laid on the seabed and would carry two rail-lines underwater. Critics say that ventilation shafts would be needed every three or four miles and that they would create problems for shipping in the channel. Another plan is to construct a suspension bridge carrying 12 lanes of auto traffic and encased in a waterproof plastic tube. Some companies propose an open deck suspension bridge with spans of about 2,000 yards. It would cost half as much as the bridge in a plastic tube but it would present shipping dangers.

Many transportation authorities believe that the most likely government recommendation will be a rail tunnel under the seabed. It will be six meters in diameter and would cost about 2 billion pounds. It will combine the advantages of a tunnel and a bridge. It will cause the least damage to the environment, it doesn't need any ventilation and will require no new technology.

Civil engineering is claimed to be “the art of directing the great sources of power in nature for the use and convenience of man”. The part played by civil engineers in pioneering work and in developing wide areas of the world has been and continues to be enormous.

#### 73. Текст 13

Russia has always been famous for its Lack of hard-surface roads. If the Roman Empire built stone roads throughout its provinces to hold it together both militarily and commercially, Imperial Russia failed to follow suit in the more than two hundred years of its existence, and so did the Communist Empire with its seventy years of misrule. Napoleon's Grande Armée was defeated by General Mud before it was finished off by General Winter. The Germans had a similar experience in Russia during World War II, and lost vehicles and artillery pieces left over-night on the roads, when temperatures plunged and the mud froze into solid rock. Russia's problem is that it is mostly located on a huge plain with little stone, gravel, or sand, and the plain turns into an ocean of mud in spring, fall, and during any strong rains in-between. Of course, problems with mud exist in other countries as well, but nowhere is the problem so acute. In Czarist times, building and up-keeping roads was one of the peasants' most difficult chores, and often roads consisted of wooden logs, which made for a rather bumpy ride, and this kind of road had to be replaced every so often because the logs rotted. Some city dwellers wrongly believe that the problem is only a minor inconvenience from traveling on dirt roads. Nothing can be further from the truth. Horses are terrified of mud and for good reason. They can easily break their legs in thick mud or sink into a bog so deep it is impossible to extract them.

#### 74. Текст 14

Right in the centre of the Russian city of Vladimir. 180 km to the east of Moscow, stands a building

constructed by a US company Serendipity whose president is Ronald Pope. The building was designed as a business centre and is also expected to accommodate Russian and English language courses for Russian and foreign business people. By Russian standards, the two-storey building, garage and numerous other facilities were built with lightning speed. The construction, when was started in mid-May, was completed by Lily to American Independence Day.

The project financed partly by the company and partly by US charity funds, should serve as an example to medium-sized business in Russian provinces. The company does not expect to recover immediately the 80,000 dollars it invested in the project. As for American construction workers, they worked at the site for free. According to Pope, his own American house cost him less to build. All the necessary materials for the building in Vladimir, except concrete, were shipped to Vladimir from Florida.

Despite strong resistance from the local authorities who feared that the city's historical centre, the US company was greatly by Russian's commercial instructions, such as local banks offering loans.

Ronald Pope knows that further problems lie ahead, yes he is not going to give up promoting business in Russian provinces and is nurturing hopes for bigger projects.

#### 75. Текст 15

New buildings tasks are caused by rapidly increasing need for buildings all over the world for all living areas – living, working, servicing, sport and free time.

These buildings are required as housing that can be quickly and perfectly constructed, or for public buildings, offices or industrial purposes.

Like every other branch of industry, the construction industry is under great pressure to rationalize and industrialize its building activities as far as possible.

This principle includes:

- the use of high-quality materials and components;
- industrially repeated production processes;
- specialization in production and the division of labour;
- a concentration of the production process in resident firms;
- constant quality control;
- the mechanization of the production process.

These are the pre-conditions to guarantee a constant high quality with fixed costs for the BISON-housing elements.

BISON construction boards with the traditional BISON quality, which are continually subjected to official testing, have already proved their suitability at many buildings sites all over the world. They are ever employed in extreme climatic zones – from the polar circle to the Sahara – as well as in areas where earthquakes occur.

This construction system is based on module arrangement adapted to the dimensions of the boards, and permits a large degree of flexibility with regard to function and comfort.

### 8. Материально-техническое и учебно-методическое обеспечение дисциплины

#### 8.1. Перечень основной и дополнительной учебной литературы

##### *Основная литература*

1. ГАРАГУЛЯ С.И. Английский язык для студентов строительных специальностей = Learning Building Construction in English: учеб. пособие / ГАРАГУЛЯ С.И.. - 2-е изд., стер. - Ростов н/Д: Феникс, 2013. - 348 с. - 978-5-222-18653-4. - 978-5-222-21247-9. - Текст: непосредственный.

2. БАТУРЬЯН М. А. Иностранный язык для строительных специальностей (английский, немецкий): учеб. пособие / БАТУРЬЯН М. А., Здановская Л. Б.. - Краснодар: КубГАУ, 2024. - 109 с. - 978-5-907817-09-8. - Текст: непосредственный.

##### *Дополнительная литература*

1. Шехорин,, В. К. Английский язык для инженеров-машиностроителей. Материаловедение: учебное пособие / В. К. Шехорин,, Н. Г. Соловьёва,. - Английский язык для инженеров-машиностроителей. Материаловедение - Москва: Ай Пи Ар Медиа, 2023. - 329 с. - 978-5-4497-2177-8. - Текст: электронный. // IPR SMART: [сайт]. - URL: <https://www.iprbookshop.ru/130523.html> (дата обращения: 20.02.2024). - Режим доступа: по подписке

2. Ивянская, И.С. Английский язык для архитекторов: Учебник / И.С. Ивянская. - 2 - Москва: ООО "КУРС", 2023. - 400 с. - 978-5-16-009139-6. - Текст: электронный. // Общество с ограниченной ответственностью «ЗНАНИУМ»: [сайт]. - URL: <https://znanium.com/cover/1976/1976095.jpg> (дата обращения: 20.02.2024). - Режим доступа: по подписке

## **8.2. Профессиональные базы данных и ресурсы «Интернет», к которым обеспечивается доступ обучающихся**

### *Профессиональные базы данных*

Не используются.

### *Ресурсы «Интернет»*

1. <http://e.lanbook.com/> - Электронный библиотечный ресурс
2. <http://elibrary.rsl.ru/> - Электронная библиотека Российской государственной библиотеки
3. <http://elibrary.ru/defaultx.asp> - Научная электронная библиотека
4. <http://www.iqlib.ru> - Электронная библиотека IQlib
5. [http://www.minfin.ru/ru/accounting/mej\\_standart\\_fo/docs](http://www.minfin.ru/ru/accounting/mej_standart_fo/docs) - Минфин России: Документы МСФО:
6. <http://www.thetimes.co.uk/> - The Times
7. <http://www.wsj.com/europe> - The Wall Street Journal

## **8.3. Программное обеспечение и информационно-справочные системы, используемые при осуществлении образовательного процесса по дисциплине**

Информационные технологии, используемые при осуществлении образовательного процесса по дисциплине позволяют:

- обеспечить взаимодействие между участниками образовательного процесса, в том числе синхронное и (или) асинхронное взаимодействие посредством сети «Интернет»;
- фиксировать ход образовательного процесса, результатов промежуточной аттестации по дисциплине и результатов освоения образовательной программы;
- организовать процесс образования путем визуализации изучаемой информации посредством использования презентаций, учебных фильмов;
- контролировать результаты обучения на основе компьютерного тестирования.

Перечень лицензионного программного обеспечения:

- 1 Microsoft Windows - операционная система.
- 2 Microsoft Office (включает Word, Excel, Power Point) - пакет офисных приложений.

Перечень профессиональных баз данных и информационных справочных систем:

- 1 Гарант - правовая, <https://www.garant.ru/>
- 2 Консультант - правовая, <https://www.consultant.ru/>
- 3 Научная электронная библиотека eLibrary - универсальная, <https://elibrary.ru/>

Доступ к сети Интернет, доступ в электронную информационно-образовательную среду университета.

### *Перечень программного обеспечения*

(обновление производится по мере появления новых версий программы)

Не используется.

Не используется.

#### **8.4. Специальные помещения, лаборатории и лабораторное оборудование**

Университет располагает на праве собственности или ином законном основании материально-техническим обеспечением образовательной деятельности (помещениями и оборудованием) для реализации программы бакалавриата, специалитета, магистратуры по Блоку 1 "Дисциплины (модули)" и Блоку 3 "Государственная итоговая аттестация" в соответствии с учебным планом.

Каждый обучающийся в течение всего периода обучения обеспечен индивидуальным неограниченным доступом к электронной информационно-образовательной среде университета из любой точки, в которой имеется доступ к информационно-телекоммуникационной сети "Интернет", как на территории университета, так и вне его. Условия для функционирования электронной информационно-образовательной среды могут быть созданы с использованием ресурсов иных организаций.

Учебная аудитория

511гд

Доска классная - 1 шт.  
Магнитола CD/MP3,дека, FM тюнер - 1 шт.  
парты - 16 шт.  
стол одностумбовый - 1 шт.  
стул твердый - 1 шт.  
шкаф книжный - 2 шт.

421300

Вешалка для одежды - 1 шт.  
Доска классная - 1 шт.  
жалюзи - 2 шт.  
Магнитола CD/MP3,дека, FM тюнер - 1 шт.  
Парты - 18 шт.  
СТОЛ ПРИСТАВНОЙ - 1 шт.  
Стул жесткий - 1 шт.  
стул полумягкий - 1 шт.  
Шкаф-сейф - 1 шт.

424300

Вешалка для одежды - 1 шт.  
доска марк. PREMIUM LEGAMASTER 100×150 - 1 шт.  
Магнитола CD/MP3,дека, FM тюнер - 1 шт.  
парты - 9 шт.  
стол одностумбовый - 1 шт.  
Стул мягкий черный - 1 шт.  
стул твердый - 1 шт.  
шкаф книжный - 1 шт.  
шкаф комбинированный - 1 шт.

#### **9. Методические указания по освоению дисциплины (модуля)**

Учебная работа по направлению подготовки осуществляется в форме контактной работы с



преподавателем, самостоятельной работы обучающегося, текущей и промежуточной аттестаций, иных формах, предлагаемых университетом. Учебный материал дисциплины структурирован и его изучение производится в тематической последовательности. Содержание методических указаний должно соответствовать требованиям Федерального государственного образовательного стандарта и учебных программ по дисциплине. Самостоятельная работа студентов может быть выполнена с помощью материалов, размещенных на портале поддержки Moodle.

### ***Методические указания по формам работы***

#### ***Лекционные занятия***

Передача значительного объема систематизированной информации в устной форме достаточно большой аудитории. Дает возможность экономно и систематично излагать учебный материал. Обучающиеся изучают лекционный материал, размещенный на портале поддержки обучения Moodle.

#### ***Лабораторные занятия***

Практическое освоение студентами научно-теоретических положений изучаемого предмета, овладение ими техникой экспериментирования в соответствующей отрасли науки. Лабораторные занятия проводятся с использованием методических указаний, размещенных на образовательном портале университета.

### ***Описание возможностей изучения дисциплины лицами с ОВЗ и инвалидами***

Для инвалидов и лиц с ОВЗ может изменяться объём дисциплины (модуля) в часах, выделенных на контактную работу обучающегося с преподавателем (по видам учебных занятий) и на самостоятельную работу обучающегося (при этом не увеличивается количество зачётных единиц, выделенных на освоение дисциплины).

Фонды оценочных средств адаптируются к ограничениям здоровья и восприятия информации обучающимися.

Основные формы представления оценочных средств – в печатной форме или в форме электронного документа.

Формы контроля и оценки результатов обучения инвалидов и лиц с ОВЗ с нарушением зрения:

- устная проверка: дискуссии, тренинги, круглые столы, собеседования, устные коллоквиумы и др.;

- с использованием компьютера и специального ПО: работа с электронными образовательными ресурсами, тестирование, рефераты, курсовые проекты, дистанционные формы, если позволяет острота зрения - графические работы и др.;

- при возможности письменная проверка с использованием рельефно-точечной системы Брайля, увеличенного шрифта, использование специальных технических средств (тифлотехнических средств): контрольные, графические работы, тестирование, домашние задания, эссе, отчеты и др.

Формы контроля и оценки результатов обучения инвалидов и лиц с ОВЗ с нарушением слуха:

- письменная проверка: контрольные, графические работы, тестирование, домашние задания, эссе, письменные коллоквиумы, отчеты и др.;

- с использованием компьютера: работа с электронными образовательными ресурсами, тестирование, рефераты, курсовые проекты, графические работы, дистанционные формы и др.;

- при возможности устная проверка с использованием специальных технических средств (аудиосредств, средств коммуникации, звукоусиливающей аппаратуры и др.): дискуссии, тренинги, круглые столы, собеседования, устные коллоквиумы и др.

Формы контроля и оценки результатов обучения инвалидов и лиц с ОВЗ с нарушением опорно-двигательного аппарата:

- письменная проверка с использованием специальных технических средств (альтернативных средств ввода, управления компьютером и др.): контрольные, графические работы, тестирование, домашние задания, эссе, письменные коллоквиумы, отчеты и др.;
- устная проверка, с использованием специальных технических средств (средств коммуникаций): дискуссии, тренинги, круглые столы, собеседования, устные коллоквиумы и др.;
- с использованием компьютера и специального ПО (альтернативных средств ввода и управления компьютером и др.): работа с электронными образовательными ресурсами, тестирование, рефераты, курсовые проекты, графические работы, дистанционные формы предпочтительнее обучающимся, ограниченным в передвижении и др.

Адаптация процедуры проведения промежуточной аттестации для инвалидов и лиц с ОВЗ.

В ходе проведения промежуточной аттестации предусмотрено:

- предъявление обучающимся печатных и (или) электронных материалов в формах, адаптированных к ограничениям их здоровья;
- возможность пользоваться индивидуальными устройствами и средствами, позволяющими адаптировать материалы, осуществлять приём и передачу информации с учетом их индивидуальных особенностей;
- увеличение продолжительности проведения аттестации;
- возможность присутствия ассистента и оказания им необходимой помощи (занять рабочее место, передвигаться, прочесть и оформить задание, общаться с преподавателем).

Формы промежуточной аттестации для инвалидов и лиц с ОВЗ должны учитывать индивидуальные и психофизические особенности обучающегося/обучающихся по АООП ВО (устно, письменно на бумаге, письменно на компьютере, в форме тестирования и т.п.).

Специальные условия, обеспечиваемые в процессе преподавания дисциплины студентам с нарушениями зрения:

- предоставление образовательного контента в текстовом электронном формате, позволяющем переводить плоскостную информацию в аудиальную или тактильную форму;
- возможность использовать индивидуальные устройства и средства, позволяющие адаптировать материалы, осуществлять приём и передачу информации с учетом индивидуальных особенностей и состояния здоровья студента;
- предоставление возможности предкурсового ознакомления с содержанием учебной дисциплины и материалом по курсу за счёт размещения информации на корпоративном образовательном портале;
- использование чёткого и увеличенного по размеру шрифта и графических объектов в мультимедийных презентациях;
- использование инструментов «лупа», «проектор» при работе с интерактивной доской;
- озвучивание визуальной информации, представленной обучающимся в ходе занятий;
- обеспечение раздаточным материалом, дублирующим информацию, выводимую на экран;
- наличие подписей и описания у всех используемых в процессе обучения рисунков и иных графических объектов, что даёт возможность перевести письменный текст в аудиальный;
- обеспечение особого речевого режима преподавания: лекции читаются громко, разборчиво, отчётливо, с паузами между смысловыми блоками информации, обеспечивается интонирование, повторение, акцентирование, профилактика рассеивания внимания;
- минимизация внешнего шума и обеспечение спокойной аудиальной обстановки;
- возможность вести запись учебной информации студентами в удобной для них форме (аудиально, аудиовизуально, на ноутбуке, в виде пометок в заранее подготовленном тексте);
- увеличение доли методов социальной стимуляции (обращение внимания, апелляция к ограничениям по времени, контактные виды работ, групповые задания и др.) на практических и лабораторных занятиях;
- минимизирование заданий, требующих активного использования зрительной памяти и зрительного внимания;
- применение поэтапной системы контроля, более частый контроль выполнения заданий для самостоятельной работы.

Специальные условия, обеспечиваемые в процессе преподавания дисциплины студентам с нарушениями опорно-двигательного аппарата (маломобильные студенты, студенты, имеющие

трудности передвижения и патологию верхних конечностей):

- возможность использовать специальное программное обеспечение и специальное оборудование и позволяющее компенсировать двигательное нарушение (коляски, ходунки, трости и др.);
- предоставление возможности предкурсового ознакомления с содержанием учебной дисциплины и материалом по курсу за счёт размещения информации на корпоративном образовательном портале;
- применение дополнительных средств активизации процессов запоминания и повторения;
- опора на определенные и точные понятия;
- использование для иллюстрации конкретных примеров;
- применение вопросов для мониторинга понимания;
- разделение изучаемого материала на небольшие логические блоки;
- увеличение доли конкретного материала и соблюдение принципа от простого к сложному при объяснении материала;
- наличие четкой системы и алгоритма организации самостоятельных работ и проверки заданий с обязательной корректировкой и комментариями;
- увеличение доли методов социальной стимуляции (обращение внимания, апелляция к ограничениям по времени, контактные виды работ, групповые задания др.);
- обеспечение беспрепятственного доступа в помещения, а также пребывания в них;
- наличие возможности использовать индивидуальные устройства и средства, позволяющие обеспечить реализацию эргономических принципов и комфортное пребывание на месте в течение всего периода учёбы (подставки, специальные подушки и др.).

Специальные условия, обеспечиваемые в процессе преподавания дисциплины студентам с нарушениями слуха (глухие, слабослышащие, позднооглохшие):

- предоставление образовательного контента в текстовом электронном формате, позволяющем переводить аудиальную форму лекции в плоскостную информацию;
- наличие возможности использовать индивидуальные звукоусиливающие устройства и сурдотехнические средства, позволяющие осуществлять приём и передачу информации; осуществлять взаимобратный перевод текстовых и аудиофайлов (блокнот для речевого ввода), а также запись и воспроизведение зрительной информации;
- наличие системы заданий, обеспечивающих систематизацию вербального материала, его схематизацию, перевод в таблицы, схемы, опорные тексты, глоссарий;
- наличие наглядного сопровождения изучаемого материала (структурно-логические схемы, таблицы, графики, концентрирующие и обобщающие информацию, опорные конспекты, раздаточный материал);
- наличие четкой системы и алгоритма организации самостоятельных работ и проверки заданий с обязательной корректировкой и комментариями;
- обеспечение практики опережающего чтения, когда студенты заранее знакомятся с материалом и выделяют незнакомые и непонятные слова и фрагменты;
- особый речевой режим работы (отказ от длинных фраз и сложных предложений, хорошая артикуляция; четкость изложения, отсутствие лишних слов; повторение фраз без изменения слов и порядка их следования; обеспечение зрительного контакта во время говорения и чуть более медленного темпа речи, использование естественных жестов и мимики);
- четкое соблюдение алгоритма занятия и заданий для самостоятельной работы (называние темы, постановка цели, сообщение и запись плана, выделение основных понятий и методов их изучения, указание видов деятельности студентов и способов проверки усвоения материала, словарная работа);
- соблюдение требований к предъявляемым учебным текстам (разбивка текста на части; выделение опорных смысловых пунктов; использование наглядных средств);
- минимизация внешних шумов;
- предоставление возможности соотносить вербальный и графический материал; комплексное использование письменных и устных средств коммуникации при работе в группе;
- сочетание на занятиях всех видов речевой деятельности (говорения, слушания, чтения, письма, зрительного восприятия с лица говорящего).

Специальные условия, обеспечиваемые в процессе преподавания дисциплины студентам с

прочими видами нарушений (ДЦП с нарушениями речи, заболевания эндокринной, центральной нервной и сердечно-сосудистой систем, онкологические заболевания):

- наличие возможности использовать индивидуальные устройства и средства, позволяющие осуществлять приём и передачу информации;
- наличие системы заданий, обеспечивающих систематизацию вербального материала, его схематизацию, перевод в таблицы, схемы, опорные тексты, глоссарий;
- наличие наглядного сопровождения изучаемого материала;
- наличие чёткой системы и алгоритма организации самостоятельных работ и проверки заданий с обязательной корректировкой и комментариями;
- обеспечение практики опережающего чтения, когда студенты заранее знакомятся с материалом и выделяют незнакомые и непонятные слова и фрагменты;
- предоставление возможности соотносить вербальный и графический материал; комплексное использование письменных и устных средств коммуникации при работе в группе;
- сочетание на занятиях всех видов речевой деятельности (говорения, слушания, чтения, письма, зрительного восприятия с лица говорящего);
- предоставление образовательного контента в текстовом электронном формате;
- предоставление возможности предкурсового ознакомления с содержанием учебной дисциплины и материалом по курсу за счёт размещения информации на корпоративном образовательном портале;
- возможность вести запись учебной информации студентами в удобной для них форме (аудиально, аудиовизуально, в виде пометок в заранее подготовленном тексте);
- применение поэтапной системы контроля, более частый контроль выполнения заданий для самостоятельной работы;
- стимулирование выработки у студентов навыков самоорганизации и самоконтроля;
- наличие пауз для отдыха и смены видов деятельности по ходу занятия.

## **10. Методические рекомендации по освоению дисциплины (модуля)**

Учебная работа по направлению подготовки осуществляется в форме контактной работы с преподавателем, самостоятельной работы обучающегося, текущей и промежуточной аттестаций, иных формах, предлагаемых университетом. Учебный материал дисциплины структурирован и его изучение производится в тематической последовательности. Содержание методических указаний должно соответствовать требованиям Федерального государственного образовательного стандарта и учебных программ по дисциплине. Самостоятельная работа студентов может быть выполнена с помощью материалов, размещенных на портале поддержки Moodle.