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Кафедра иностранных языков І

Методические указания по английскому языку для студентов ИАиГ по специальности Архитектура I часть

Нижний Новгород ННГАСУ 2010 УДК 42

Методические указания по английскому языку для студентов ИАиГ по специальности Архитектура.

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Методические указания предназначены для обучения чтению и переводу текстов по специальности «Архитектура». Материал пособия включает оригинальные тексты и необходимое количество архитектурных терминов, необходимых для наиболее широкого употребления по специальности. Упражнения направлены на освоение профессиональной лексики и развитие умений и навыков, необходимых для полного понимания читаемого материала при обучении говорению и письму.

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Architecture

I. Translate the following words and memorize them:

- to abandon nomadic existence
- the construction of shelter
- the first instances of large constructions
- civil structures
- aqueduct
- harbour
- bridge
- dam
- human society
- aesthetic and functional criteria
- application of physical and scientific principles
- a wide ranging profession
- knowledge

II. Answer the questions:

- 1. What did people of ancient Egypt and Mesopotamia need?
- 2. What were the first instances of large structural constructions?
- 3. What did civil structures of the Romans include?
- 4. When did architecture as art appear?
- 5. What is architecture now?
- 6. Why is architecture a wide ranging profession?

III. Read the text and mark:

- a. the information known to you
- b. the information unknown to you

Text

Architecture might be considered properly commencing between 4000& 2000 BC in ancient Egypt and Mesopotamia. When humans started to abandon a nomadic existence, thus causing a need for the construction of shelter.

During this time transportation became increasingly important leading to the development of the wheel and sailing. The construction of Pyramids in Egypt (2700-2500BC) might be considered the first instances of large structure constructions later appears the Parthenon in ancient Greece (447-438 BC), the Appian way by Roman engineers (312 BC) and the Great Wall of China (220 BC).

The Romans developed civil structures throughout their empire including especially aqueducts insulated harbors, bridges, domes and roads.

Architecture as such appears only with dividing of human society into classes. That's why, it always reflects the spirit of epoch, character and traditions of the nation creating architecture.

Architecture is the art and science of designing and building structures or ensembles according to aesthetic and functional criteria.

Architecture is the application of physical and scientific principles and its history is intricately linked to advances in understanding of physics and mathematics through the history.

It is a wide ranging profession, including several separate specialized subdisciplines and its history is linked to knowledge of structures, materials, science, geography, geology, soils, hydrology, environment, mechanics and other fields.

IV. Create a presentation using Microsoft PowerPoint. Topic: Architecture.

Architect

I. Translate the following words and memorize them:

- to be trained and licensed
- to participate
- to supervise
- a computer software architect
- cumulative knowledge of centuries
- to combine art, science, etc
- to avoid conflict with nature
- landmarks of by-gone days
- to affect public safety
- architect's activity

II. Answer the following questions:

- 1. What is the main function of an architect?
- 2. Is it important to use cumulative knowledge of by-gone centuries?
- 3. What is the main problem facing the architect today?
- 4. What does the architect need to earn a license to practice architecture?
- 5. What does architect's activity include?
- 6. What do you think of this profession?

III. Read the text and mark:

- c. the information known to you
- d. the information unknown to you

Text

Architect is trained and licensed in planning and designing buildings and participates in supervising the construction of a building.

Etymologically, architect derives from the Latin architectus, itself derived from Greek architekton (arkhi, -chief + tekton ,builder) i.e. chief builder. The words "arcitect" and "architecture" are used in the disciplines of engineering, e.g. computer software architect.

The architect is a person trained and experienced in the design of buildings and coordination and supervision of all the aspects of the construction. Designing a structure, he uses the cumulative knowledge of centuries.

Many consultant experts, structural engineers, services engineers and other subcontracted specialists participate in the architect's design.

The architects` sphere of knowledge is constantly expanding. He has to combine art, advanced technology, science and economics in his work.

The main problem facing the architect today is to avoid any conflict with nature and the landmarks of by-gone days.

Professionally, architect's decisions affect public safety and thus must undergo specialized training and education and practical experience in order to qualify for and earn a license to practice architecture.

The fields of architects' activity include interior design, restoration and preservation of relics of ancient architecture, reconstruction and decoration of all kinds of building.

To construct residential office and industrial structures, stadiums, schools cinemas and even cities and villages the architect needs knowledge of painting, sculpture, design, landscaping civil engineering city planning, ecology, economics...

IV. Use your answers to speak about the specialty of an architect.

Types of Buildings

I. Translate the following words and memorize them:

- to influence
- to choose
- to erect
- to demand
- to solute
- to reinforce
- to represent
- to improve
- to require
- precast slabs
- living standards
- concrete arches
- residential area

II. Read the following text again and answer the questions:

- How do the architects choose one or the other type of a construction?
- What should it express?
- What points should be taken into consideration?
- What advantage should be demonstrated?
- How do you understand the term "living standards"?

III. Read the text and mark:

- a. the information known to you
- b. the information unknown to you

Text

The type and function of a building influence its choice of design, building materials and technology of its erection. But the common and most necessary conditions are stability of the construction to various human needs.

The building must be expressive and beautiful from the architectural point of view. It must express the technological development of the society and the contemporary trends in the design.

The evolution of the technique is conditioned by two factors: economic and aesthetic.

Each type of a structure demands its own constructional solution and techniques up-to-date industrial buildings have demonstrated the advantages of such units and forms as precast slabs and panels, reinforced concrete arches, glass walls and so on. The improvement of the residential houses represents a visible rise in the general level of living standards. Everything is done to meet the requirements and to make comfort for people.

All types of buildings should not be only functional but also comfortable and pleasant to look at.

IV. Speak on the types of buildings making use of your own answers.

V. Make a presentation on famous structures of the XXth century using
the resources of Microsoft PowerPoint.

Parts of a House

I. Memorize the following words and word-combinations:

- to erect
- to consist of
- footing and foundation
- basement
- roof
- partition
- to prevent
- to carry
- to cover
- to tie
- to divide into
- to be capable of smth
- hollow
- solid
- ferro-concrete
- to support
- flight of stairs

II. Read the text and answer the following questions:

- 1) Can you name the basic parts of a house?
- 2) What's the use of footings and foundations?
- 3) What gives firmness to the building?
- 4) The walls can be hollow or solid in a structure, aren't they?
- 5) What materials are the floors made of?
- 6) What do the partitions divide?
- 7) What is the function of stairs?
- 8) What do you consider the most important part of the house?

III. Read the text and mark:

- a. the information known to you
- b. the information unknown to you

Text

Different kinds of building are being erected now in our country and abroad. A house is a complex structure consisting of many parts: footings and foundations, a basement, a roof, different types of walls, parturitions and floors, ceilings, stairs etc.

Footings and foundations are used to carry the load of the whole structure, to stabilize the soil and to prevent the house from settling. Most of the houses have basements.

A roof is the top most part of a house, it covers the building, tie the walls and gives firmness and strength to the structure.

Walls support the weight of floors and roofs and may be hollow or solid in construction.

Floors. The tires or levels dividing a building into storeys are called floors. They should be of fire-resisting materials capable of carrying heavy beams, hollow blocks laid on metal framework.

Partitions are inner walls using to divide buildings into rooms, corridors, entrance halls, ladders and other premises.

Sometimes partitions act as support for the joints of floors, ceiling and purlings (beams).

Stairs are used for communication between storeys. They consist of flights of stairs, landings and banisters. A ladder, a "fire-escape", backstairs – these are terms for different types of stairs, depending on their purposes.

IV. Describe the house you live in details.

V. What does your ideal house be like? Describe it giving reasons.

Building materials

I. Find the Russian equivalents to the following words and memorize them:

- to be safe
- to be successful
- to a great extent
- according to
- to use
- to be suitable for
- to lay smth out
- to connect
- flyover
- stiffness
- concrete
- artificial
- timber
- interior
- exterior
- load bearing walls
- wall paper

II. Read the text and answer the following questions:

- 1) What does depend on building materials?
- 2) What groups the building materials are divided into?
- 3) What is used to make bedding?
- 4) What do you know about binding materials?

III. Read the text and mark:

- a. the information known to you
- b. the information unknown to you

Text

Structural engineering is concerned with structural design and analysis of buildings, bridges, towers, flyovers, tunnels and other structures. They should be safe for their users and successfully fulfill the function they are designed for.

Strength, stiffness and stability of the structure when subjected to loads, to a great extent will depend on the building materials.

According to their usage building materials are divided into 3 groups.

1. Materials mainly used in construction under load (load-bearing construction); they are: concrete, natural and artificial stones, brick, timber,

metal etc. All of them are suitable for laying out footings, foundation, loadbearing walls and roofs.

- 2. This group includes binding materials used for making bedding, connecting bricks and stones; they are asphalt, bituminous fields lime mortars, cements and gypsum.
- 3. Materials used both for interior and exterior finish including different paints, varnish, glass, states, ties, plywood, plastics, wall paper, floor covering and so on.

IV. Give your own examples of new and up-to-date building materials and their application.

Architecture and style

I. Translate the following words and memorize their meanings:

- to create expression
- distinctive aspects
- differ considerably
- to reveal
- landmarks of mankind
- to study influence
- to contribute to formation of a style
- to fall into several groups
- to reach the highest development
- column and beam
- semicircular arch vault
- pointed arch
- associative quality

II. Read the text and answer the following questions :

- 1. What can you say about architectural style?
- 2. What influences the formation of a particular style?
- 3. What types of architectural styles are known to you?

III. Read the text and mark:

- a. the information known to you
- b. the information unknown to you

Text

Architecture and style

The history of architectural style is the history of man's need for security and shelter, comfort, decoration and individuality.

The word "style" denotes the fashion or mode of creative expression, either written or spoken. Now it means the distinctive aspects of any age, historical periods or a region. In this respect east and west differ considerably.

The history of architecture is a record of continuous evolution. A glance along the past ages reveals architecture as a history of social conditions, progress and events which were landmarks in the history of mankind.

Comparing the buildings of each period and studying influences – geographical, geological climatic, religious, social and historical have contributed to the formation of a particular style.

Architectural styles fall naturally into several groups, which beginning in Egypt and Assyria reached their highest development in Europe and styles of Indian, Chinese, Japanese ancient Americans and Sarasenic Architecture.

Old European architecture may be divided into 3 main types, differentiated by important constructive principles:

- 1. The Greek style, consisting of column and beam.
- 2. The Roman or composite style, combining column and semicircular arch and vault.
- 3. The Gothic style is that in which the pointed arch prevailed.

Styles began to be chosen not just for fashion but for their associative qualities: Greek for government, Roman for justice, Gothic for learning and churches, the Italian Renaissance for palaces and ministries, the Baroque for theatres and opera houses, Oriental for leisure.

IV. Use your answers to speak about architectural styles.

V.Give a short presentation using Microsoft PowerPoint

Orders of Architecture

I. Read the following words and find the Russian equivalents:

- the greatest achievement
- Ancient Greece
- in the course of time
- three-part division
- clear-cut division
- bearing and carried elements
- growing complexity
- pedestal
- entablature
- flat girder floor
- socle
- stooling
- cornice
- base
- shaft
- to rest on the bedding
- moldings

-

II. Read the text and answer the questions

- 1. What is the greatest achievement of antique architecture?
- 2. What order systems can you name?
- 3. What are the three main principles underlying the order system?
- 4. What are the three parts comprising each order?
- 5. What can you say about the pedestal, the column the entablature?
- 6. How are the parts of the order joined?

III. Read the text and mark:

a. the information known to you

b. the information unknown to you

Text

One of the greatest achievements of antique architecture is the system of orders. They reached their highest development as a complete classical compositive system in Ancient Greece in VI-III c.c. BC. The name itself comes from the Latin word "ordor" meaning "the order". In the course of time purely structural elements have acquired a finished artistic form – the order.

There were three main order systems in Grecian architecture – the Doric, the Ionic and the Corinthian, though Vinyola and Palladio have given the detailed description of five orders – the Tuscan, the Doric, the Ionic, the Corinthian and the Composite.

Three main principles underlie the compositive structure of the order system:

- three-part division
- clear-cut division into bearing (carrying) and carried elements
- growing complexity of the whole composition from the bottom upwards

The position of the main responsible link is in the middle part of the composition.

Each order comprises 3 main parts:

a pedestal- the base of the order; a column- the main bearing unit and the entablature- the flat girder floor (the carried element) resting on the column.

In this turn, each of the three units has also a three-part division:

The pedestal, consisting of a socle, stooling and a cornice.

The column having a base, a shaft and a capital.

The entablature comprising an architrave, a frieze and a cornice.

In Greek structures the column often rests not on the pedestal but on the bedding called a stylobate.

The parts of the order are joined by means of a system of architectural details called moldings, which differ in their profiles (cross sections). They may be rectilinear or curvilinear.

IV. Use the answers to speak about orders of architecture. V. Describe the difference between the orders.

SUPLEITIENTARY READING

Text 1

DESIGN OF RESIDENTIAL AREAS

The term "design" in connection with residential areas means the arrangement of the various parts (the houses, roads, and so on) in such a way that they function properly, can be built economically and give pleasure to look at. The appearance of the area develops from its function and the way it is built, and is not something which is applied after the scientific, constructional and economic problems have been solved. These latter problems which are at the root of design, have received a fair share of attention in technical publications, and judging by results, are better understood than those concerned with appearance.

The term "residential area" is commonly taken to mean an area of urban development in which the majority of buildings are dwellings and from which conflicting buildings are excluded. It has now become generally accepted that an area of dwellings, however well designed, is not by itself sufficient to meet the needs of the inhabitants. Schools, shops, playing fields, a meeting hall and other communal facilities are necessary to meet these needs, and an area which contains them is generally called "a neighborhood". There may be very wide variations in size and shape between one neighborhood and another, depending on the structure of the town as a whole and on the topography.

There is a strong aesthetic argument for subdividing the neighbourhood into housing units. An area of some two or three thousand dwellings is likely to be exceedingly dull in appearance, simply because there is little visual relief from bricks and mortar. Even a variety of dwellings will not help matters, because a general impression of the same kind will remain. If, on the other hand, the area is subdivided into a series of areas, each having its own characteristics (so that it is distinguished from the others), and if all of them are held together by the structure of the neighborhood plan, there will be variety through the contrasts of each area and unity within the neighborhoods as a whole.

Text 2

THE SEVEN WONDERS OF THE ANCIENT WORLD

The ancient Greeks were probably the first to make up a list of Seven Wondersthose marvelous structures that no traveler would want to miss. Through the ages, others added to or subtracted from the list, based on their opinions. Today, however, the following wonderworks are most often referred to as the Seven Wonders of the Ancient World.

The Pyramids, tombs for the Egyptian pharaohs, are the oldest and best preserved of all ancient wonders. The three most famous pyramids were built at

Giza about 2600 **BC.** The largest of the three, the Great Pyramid, stands about 450ft (137m) high. Its base occupies about 13 acres (5 hectares).

The Hanging Gardens of Babylon was built by King Nebuchadnezzar who ruled Babylonia from 605 to 562 BC. Babylon, the capital of Babylonia, was located near the city of Baghdad in Iraq. The walls are in ruins today, but accounts describe beautiful gardens of flowers, fruit trees, and fountains. The gardens were laid out on brick terraces about 400ft (120m) square and 75ft (23m) above the ground.

The Temple of Artemis was built about 550 BC in the Greek city of Ephesus on the west coast of what is now Turkey. Artemis was the Greek goddess of hunting. The temple was made entirely of white marble except for its tile-covered wooden roof. It was 377ft (115m) in length and Ig0ft (55m) in width. More than one hundred enormous columns, in a double row around the building, supported its huge roof.

The Statue of Zeus at Olympia, Greece, was perhaps the most famous statue of the ancient world. It was made in about 435 BC and dedicated to the King of the Greek gods. The statue was made of ivory, 40ft (12m) high, and showed Zeus sitting on a huge golden throne set with precious stones.

The Mausoleum at Halicarnassus was Located in what is now southwestern Turkey. It was a huge, white marble tomb for a king named Mausolus. Its size and gold decoration made it so famous that large tombs are called mausoleums even today.

The Colossus of Rhodes was a huge bronzed statue that stood near the harbour of Rhodes, an island in the Aegean Sea. The statue honoured the Greek god of the sun, Helios. It stood about 120ft (37m) tall — about as high as the Statue of Liberty.

The Lighthouse of Alexandria stood on the island of Pharos in the harbour of Alexandria, Egypt. The lighthouse rose from a stone platform in three sections: the bottom was square, the middle eight-sided, and the top circular. Light was provided by a bonfire burning continuously at the top of the tower.

Except for the pyramids at Giza, none of the ancient wonders is standing today. They were destroyed by humans or nature.

Text 3

TOWARDS THE FUTURE

1. No one can accurately predict what the future of architecture will bring. The future will be related to the development of new materials, new construction methods, computer designing, and the sociological changes we undergo.

2. Size. The technological explosion should enable us to build in sizes heretofore impossible. But who can say what will be possible?

3. Location. In the future we should be capable of building structures on locations that would now be unthought-of. Advancements in transportation methods and

refinement in the engineering of structures will make even more locations possible. There are books and articles about plug-in cities and cities underground, in the sky, under the ocean, and in the ocean, and about other cities of the future.

4. Shapes. For centuries we have been hampered in our architectural development through the use and overuse of the square and the cube as the basis for our structures. We are just entering into a fuller realization of the possibilities of utilizing other shapes such as the triangle, the pyramid, the circle, and the sphere. The development of stronger, more versatile materials and new construction techniques should enable us to construct buildings that are completely functional without reference to any basic geometric form. Even the basic floor plans should be more diversified with the development of new and more flexible building materials. Frank L. Wright demonstrated for 60 years that interior space can be much richer and much more interesting than a box.

5. Dwelling. What our homes will look like in 10, 20, and 30 or 100 years is an interesting question to ponder. Perhaps there will be no houses, they will be replaced by controlled environment. Indeed, houses as we know them may become museum pieces, or only illustrations of architectural history.

With more leisure time anticipated in the future, more emphasis will be placed on recreational activities within or about the home.

6. Architectural creation is a never-ending process. Modern architects should work so that many buildings of the 20th century would not become for future generations evidence of an architectural dark epoch.

Orders of Architecture

The orders are the highest accomplishment of the pillar and beam construction. The Doric is the oldest order subdivided into Greek, Doric and Roman Doric. The so-called "Doric column has got its name from one of the primitive Greek tribes Dorians - who occupied the southern part of Greece.

The ancient architects considered the Doric order to correspond in its proportions to the naked male body. I laving found that the length of a foot constitutes, on the average, one-sixth part of the man's height, the Greeks gave us the column six times as high as the diameter of its base. The Doric order personifies courage and strength, it has severe proportions and it is very simple in decorations.

The Doric column stands directly upon the platform of the temple; the shaft of the column is fluted, it is narrowed upward. The capital is made up of cushion-like member called "echinus" and a square "abacus". The architrave is plain, almost without any decorations.

The perfect embodiment of the classical Doric architecture is the Parthenon, a temple honouring the goddess Athena. It was erected on the Acropolis in 447-433 BC.

2. The Ionic order originated_in Asia Minor in the middle of the sixth century BC The finest surviving examples of the Ionic order-are to be found among the structures of the Acropolis. Its most striking- feature is the column, which differs from the Doric not only in body but also in spirit. The Greeks erecting the temples have borrowed the proportions of the female figure.

It is lighter and more graceful than the Doric, with the column eight times as high as the lower diameter. The column rests on a richly moulded base. The characteristic feature of the capital is a volute between the echinus and the abacus. Slender proportions and rich plastic of Ionic order personify feminity and beauty.

3. The Corinthian order was an Athenian invention of the 5th century BC it is the most ornamented of the three Greek orders. In its general proportions the order is very like the Ionic: characterized by a high base, sometimes a pedestal; slim, fluted column shaft with deep fillets; bell-shaped capital with eight volutes and two row's of leaves. It has an elaborate cornice.

It was largely employed in Rome, for it corresponded to the desire of the Romans for splendour and magnificence. The main change occurred in the form and decoration of the capital which became clothed with rows of ornaments; the frieze has plenty of sculptural compositions; rich consols and moldings decorate this 'order.'

4. The Tuscan order is a simplified version of the Roman Doric, having a plain frieze and no mutules in the cornice. The columns are unflutted; the moldings are fewer and bolder.

The Composite order is a late Roman combination of elements from the Ionic and Corinthian orders. It is really a variety of the Corinthian; its abacus has the plan of the Corinthian abacus (a square with six convex sides). Under the projecting angles there are large volutes placed diagonally and in some cases springing from behind the 6 and of egg-and-darts borrowed from the Ionic.

Glossary

- to consider считать
- to commence начинать
- to cause –причинять, вызывать
- to include- включать
- to consider считать
- to commence начинать
- to cause –причинять, вызывать
- to abandon покидать, уходить
- the construct строить
- to appear появляться
- to reflect отражать
- to create создавать
- to link соединять
- ancient древний
- BC before Christ до нашей эры
- nomadic existence кочевая жизнь
- thus- таким образом
- shelter жилище
- wheel колесо
- sailing мореплавание
- throughout the empire по всей империи
- aqueduct- водопровод акведук
- a dam плотина
- spirit of epoch дух эпохи
- society общество
- according to в соответствии с

- an advances in understanding – успех в понимании

Lesson 2

- civil structure жилая постройка
- harbour гавань, бухта
- bridge мост
- knowledge -знание
- to be trained and licensed- быть обученным иметь лицензию
- to participate принимать участие
- to supervise контролировать
- cumulative knowledge накапливать знания
- to combine сочетать
- to avoid избегать
- landmarks of by-gone days достижения прошлого
- to affect влиять
- public safety общественная безопасность
- influence влияние
- to choose выбирать
- to undergo проходить, подвергаться ч-л
- to earn- заработать
- activity- деятельность
- experience- опыт

- to choose выбирать
- structure постройка

- point of view точка зрения
- contemporary современный
- to demand требовать
- to find a solution to smth- найти решение ч-л
- precast slabs сборная плита
- living standards- жилищные условия
- reinforced concrete arch- железобетонная арка
- glass wall- стеклянная стена,,,,,,,,,,,

- to erect воздвигать
- to demand требовать
- footing опора
- foundation основание
- basement подвал
- roof крыша
- partition- перегородка
- ceiling- потолок
- stairs- лестница
- to expand- расширять
- to earn зарабатывать
- in order to для того чтобы
- to carry нести, выполнять
- to stabilize обеспечивать устойчивость
- to prevent предотвращать
- to cover –покрывать
- firmness- жесткость
- strength- сила
- to tile покрыть черепицей

- hollow пустой
- solid твердый, сплошной
- tier- ярус
- level- уровень
- fire-resisting огнеупорный
- capable- способный, поддающийся
- heavy loads большие нагрузки
- ferro-concrete slabs- железо-бетонные плиты
- precast beam- балка
- innre wall- внутренние стены
- premises- помещения
- ladder- лестница (приставная)
- joint- соединение
- purlins- опора
- flight of stairs- лестничный марш
- to represent представлять
- to improve улучшать
- to require требовать
- precast slabs сборная плита
- living standards- жилищные условия
- concrete arch бетонная арка
- residential area жилой район

- to be safe быть безопасным
- tower- башня
- flyover эстакада
- stiffness жесткость

- to fulfill-выполнять
- strength-сила, прочность
- stability-устойчивость
- to be successful быть успешным
- to a great extent- в большей степени
- to connect связывать
- load- груз, нагрузка
- concrete бетон
- artificial искусственный
- timber древесина
- to be suitable for быть подходящим для
- to lay smth out заложить фундамент
- load-bearing wall- несущая стена
- bedding- основание
- brick- кирпич
- stone- камень
- asphalt- асфльт
- bituminous felts-битумные смолы
- lime mortar- известковый раствор
- gypsum-
- interior интерьер
- exterior экстерьер
- paint- краска
- varnish- лак
- glass- стекло
- slates-плитка
- tile- черепица
- plywood- фанера
- wall paper- обои
- floor covering-напольное покрытие

- to denote обозначение
- distinctive aspects- отличительные черты
- to mean -значить, обозначить
- to differ отличаться
- reveal обнаружить
- event событие
- to compare сравнить
- to contribute сделать вклад
- to reach достигнуть
- to prevail преобладать
- security безопасность
- creative expression творческая выразительность
- to reach the highest development- достичь наивысшего развития
- column and beam колонна и арка
- semicircular arch vault полукруглый арочный свод
- pointed arch стрельная арка
- differ considerably значительно отличаться
- glance взгляд
- event событие
- particular особенный
- justice правосудие
- church церковь

- to acquire- приобретать
- to consist of состоит из
- to comprise –включать в себя

- to rest on покоится, опираться
- to join соединять
- to achieve достигать
- ancient Greece- древняя Греция
- in the course of time- с течением времени
- underlie лежать в основе
- three-part division трехчастное деление
- clear-cut division точное деление
- complexity –сложность
- -from bottom upwards снизу вверх
- responsible link самое ответственное звено
- bearing and carried element несущий элемент
- flat girder floor плоское балочное перекрытие
- in this turn в свою очередь
- entablature антаблемент
- socle –тумба, цоколь, пьедестал
- stooling опора, подставка
- shaft –стержень колонны, колонна
- mouldings лепное украшение, карниз

ЮДИНА ОЛЬГА АЛЕКСАНДРОВНА СМИРНОВА ЕЛЕНА ВЯЧЕСЛАВОВНА

МЕТОДИЧЕСКИЕ УКАЗАНИЯ

по английскому языку для студентов ИАиГ по специальности

Архитектура

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