**Модуль 1 (University)** повышенный уровень (сильная группа)

**Introduction**

* What is the idea of University education? (*to open up some amazing doors and*

 *opportunities for the career as an engineer; to cultivate the intellect;*  *a place*

 *of teaching universal knowledge*).

* Does University education play an important part in our life? Why?
* Is there any difference between learning and education?
* What famous world known Universities do you know?

**2.** **Speak on the Academic Ranking of World Universities 2014: top 100** (is changed annually)

*Example:* Tokyo University is a Japanese University. Its world rank is 20.

* + [**Academic Ranking of World Universities**](http://www.shanghairanking.com/) (Shanghai Ranking Consultancy)
	+ [**The World University Rankings**](http://www.timeshighereducation.co.uk/world-university-rankings/)   (Times Higher Education)
	+ [**QS World University Rankings**](http://www.topuniversities.com/university-rankings/)  (Quacquarelli Symonds) etc.

|  |  |  |
| --- | --- | --- |
| **Rank** |  **Institution**  | **Country** |
| 1 | Harvard University  | US |
| 2 | Stanford University  | US |
| 3 | [Massachusetts Institute of Technology (MIT)](http://www.timeshighereducation.co.uk/world-university-rankings/2013-14/world-ranking/institution/massachusetts-institute-of-technology) | US |
| 5 | [University of Cambridge](http://www.timeshighereducation.co.uk/world-university-rankings/2013-14/world-ranking/institution/university-of-cambridge) | UK |
| 10 | University of Oxford | UK |
| 78 | Osaka University  | Japan  |

*References:*

http://www.arwu.org/rank/2007/ARWU2007TOP500list.htm

http://ed.sjtu.edu.cn/rank/2004/top500(1-100).htm

 <http://www.shanghairanking.com/ru/FieldSCI2014.html>

**3**. **Please attempt to find answers to the following questions.**

1. Which English universities were founded first?

2. What does the reputation of a University depend on?

3. At a typical English university who is generally responsible for student academic progress?

4. What university do you study at?

5. What is your University most famous for?

**4**. **Consult the Internet “Google Earth Maps” (the University of Cambridge location ) .**

Consult  **“**You Tube” the University of Cambridge (Movie*)* . <http://www.youtube.com/watch?v=NX3BOyyL7zg>

**The University of Cambridge**

 **Vocabulary** 

|  |  |
| --- | --- |
| college( n )  | высшее учебное заведение (небольшой университет) или часть большого университета (факультет).  |
| to attach | иметь отношение, прикреплять  |
| tutor (n)  | руководитель образовательной программы, академический наставник, закрепляемый за студентом или группой студентов для консультирования по вопросом, связанным с изучаемым учебным материалом  |
| supervision (tutorial) n  | 1.форма обучения в малых группах путем прикрепления студентов к отдельным консультантам; 2. семинар, групповое занятие по разбору пройденного материала.  |
| course ( n )  | специализация, учебный курс занятий (обычно рассчитанный на семестр)  |
| subject ( n )  | предмет обучения, специальность  |
| undergraduate | 1.общее название для бакалаврских программ; 2.студент бакалавриата |
| graduate | студент магистерской программы, имеющий степень бакалавра и продолжающий обучение.  |
| the lecture theatres | лекционные аудитории  |
| in advance | заранее  |
| specialist area | определенная область исследования, специализация  |
| to offer courses | предлагать курсы  |
| to arrange exams | проводить экзамены  |
| to award а degree | присваивать квалификацию  |
| to enroll students | зачислять студентов  |
| to suggest books | рекомендовать литературу  |
| to conduct research | проводить исследование  |
| to hold lectures | проводить \ читать лекции  |
| to be academically challenging | быть плодотворным с педагогической точки зрения, быть более трудным  |
| in association with | совместно с  |
| subject department | профилирующая кафедра  |
| to raiseissues | поднимать проблемные вопросы  |
| to attend supervision | посещать семинар \ консультацию  |
| to be allocated to a supervisor  | прикреплять к консультанту  |
| academic progress | успеваемость  |
| to set assignments | давать задания  |
| to make notes | конспектировать  |
| teaching staff | преподавательский состав  |
| to follow one’s own particular course of study  | работать по индивидуальной программе  |
| to be appointed a professor  | назначаться на должность преподавателя  |
| as well as | также  |

**Text 1 A. The University of Cambridge **

**Skim Text 1 A and find answers to the following questions and then listen to the recording:**

*1. How many colleges are there in Cambridge?
2. What is the university in charge of?
3. Why is a tutorial more academically challenging than a standard lecture?
4. Who holds the university teaching appointments?
5. What kinds of students are there at any college in Cambridge?*

1. "Where is the University?" This is a question many visitors to Cambridge ask. As the university has no city campus it is not possible to give them definite directions. The lecture theatres, libraries, laboratories, museums and offices are located in separate colleges throughout the city. The university is made up of 31 self-governing colleges to which the students and academics are attached. The University in Cambridge is collegiate and not one single university like, for example, The University of Manchester or The University of Bristol.

2. The University of Cambridge is the central administration that awards degrees to students. The colleges, in association with the subject departments, organize the teaching of students. Each college enrolls students, who usually live and study within their colleges. The teaching within the colleges is based on an individual or small group system, at the University of Oxford these teaching session are called 'tutorials' and at Cambridge 'supervisions'. Each supervision requires students to prepare work in advance. The supervisions are generally more academically challenging than a lecture because students are expected to orally communicate, raise issues, defend, analyze and criticize the ideas of others as well as their own in discussion with their supervisor and the other students attending the supervision.

3. The tutorial system is one of the ways in which Oxford and Cambridge differ from most other English universities. Each student is allocated to a supervisor (at Cambridge or a tutor at Oxford) who plans the students' work, discusses academic progress and sets assignments to be undertaken. For example, the writing of an essay. The supervisor also suggests the books the students should read and make notes from. Each week, or more frequently, students attend their supervisions at which the supervisor discusses and criticizes the work the students have completed. Lectures are also given to the students by the teaching staff of the department. People who are appointed as professors normally do not undertake much undergraduate teaching as they conduct research in their own specialist areas.

4. Students at each college study a whole range of different subjects. So in one college there will be students studying law, geography, medicine and engineering, as well as all the other subjects offered within the university. Each student follows their own particular course of study but the college system allows students studying different subjects to meet and mix with each other and to share ideas.

5. The University of Cambridge has over 12,000 undergraduate students (about 49 per cent of them women and approximately 15 per cent from overseas), over 6000 postgraduates and nearly 4,000 academic staff. As well as teaching, research is of major importance to the university. Since the beginning of the 20th century more than 90 university members have won Nobel prizes.

 *(2492 characters*)

**Speaking Activities**

**Exercise 1. Text 1A. Find the answers in the right column and describe in short the University and its system of education**

|  |  |  |
| --- | --- | --- |
| 1. | What makes the University of Cambridge different from most other English Universities? | a. conduct research  |
| 2. | Why are the supervisions more academically challenging than a standard lecture? | b. the tutorial system - students are taught in small groups |
| 3. | What is a supervisor in charge of? | c. once a week or more frequently |
| 4. | How often do students attend their supervisions? | d. students raise issues, analyze and criticize the ideas in discussion |
| 5. | What issues are generally discussed at supervisions? | e. the work completed and academic progress |
| 6. | What is a typical assignment set for students? | f. to prepare work in advance |
| 7. | What is a student required to undertake for each supervision? | g. a wide range of subjects: law, medicine, engineering etc. |
| 8. | What subjects are offered within one college? | h. writing of an essay |
| 9. | The university professors do not undertake much undergraduate teaching. What kind of work do they do? | i. assignments to be undertaken by the students |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |  |  |  |  |  |  |  |  |

**Exercise 2.** Fill in the proportions :

 to attend to make ? to raise ? to arrange

 = = = = =

 ? note assignment ? lectures ?

 ? to conduct ? to share ?

 = = = =

 research ? progress ? degrees

**Exercise 3. From the list of actions below, choose those performed by the students and by the tutors and those within the university responsibility. Inform the audience what a tutor is usually in charge of (in 5-7 sentences)**

to make notes, to undertake assignments, to attend lectures, to raise issues, to attend supervisions, to write essays, to award degrees, to arrange lectures, to teach students in small groups, to criticize the work completed, to discuss academic progress, to allocate to a tutor, to offer courses, to enroll students, to suggest books

|  |  |  |
| --- | --- | --- |
| Student | Tutor | University |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Exercise 4. Speak on the University of Cambridge according to the scheme:**



**Exercise 5 Express your point of view whether the tutorial system has a great value or not .** *Example:*

|  |  |
| --- | --- |
|  I believe  I don’t think To my mind  | that the **tutorial system** has a great value . |

- isbeneficial for all students.

- is useful and helpful.

- it is wasting of time and money.

- it provides them with ideas how to realize the academic potential

better.

- it allows the students to discuss , analyze and share the ideas

with the tutor.

- it permits the students to communicate in groups.

**Grammar**

**Exercise 6. Open the brackets and write the verbs in the proper tense forms.**

1. Не often (to show) \_\_\_\_\_\_\_\_\_\_\_ a new equipment in the laboratory.

2. Не (to show) \_\_\_\_\_\_\_\_\_\_\_ a new equipment in the laboratory tomorrow.

3. Не (to show) \_\_\_\_\_\_\_\_\_\_\_ a new equipment in the laboratory last week.

4. This University (offer) \_\_\_\_\_\_ many courses ten years ago.

5. The supervisor (teach) \_\_\_\_\_\_\_\_\_\_ undergraduates in small groups last year.

 6. Students (demonstrate) \_\_\_\_\_\_\_\_\_ new device in the laboratory yesterday.

 7. At the lecture last Monday they (make notes) \_\_\_\_\_\_\_\_\_ to explain the phenomenon.

**Exercise 7.**

1. **Make up all types of questions in Present Simple**

Undergraduates attend lectures in physics every Friday.

1. **Make up all types of questions in Past Simple**

The undergraduates attend**ed** lectures in physics last Monday.

1. **Make up all types of questions in Future Simple**

 Our lecture in Physics will begin at 9 a.m. next week.

**Exercise 8. Open the brackets and write the verbs in the proper tense form.**

1. Не often (to show) \_\_\_\_\_\_\_\_\_\_\_ a new equipment in the laboratory.

2. Не (to show) \_\_\_\_\_\_\_\_\_\_\_ a new equipment in the laboratory tomorrow.

3. Не to show) \_\_\_\_\_\_\_\_\_\_\_ a new equipment in the laboratory last week.

4. A college as a rule (to provide) \_\_\_\_\_\_\_\_\_\_ facilities, food and accommodation for students.

**Exercise 9. Put the following sentences into Passive**

Model: People speak English in Europe.
 English is spoken in Europe.

**Part A**

1. A large number of people in the world use English as the international language.

 2. Our University enrolled 2000 students last year.

3. The enrolment office admits students to the University in August.

 4. This University will offer many courses.

 5. The teachers hold lectures on the University campus.

6. The University provides students with facilities.

7. The departments teach students in small groups (tutorials).

8. The University awarded degrees in May.

9. The University will arrange examinations for students at the end of June .

**Part B**

11.Colleges provide accommodation and food.

12. Undergraduates attend lectures and tutorials.

13. Students will discuss the work with their tutors.

14. Junior students choose their majors, normally at the end of the first year.

15. Every college involved many students in sports last year.

16. Professors engage senior students in research.

17. Tutors will suggested the books to read for a particular course.

 18. Professors assess student academic achievements.

 19. Professors usually carry out investigations.

20. Most European Universities give lectures in English.

**Exercise 10.Translate the Russian words below into English, using the Present /Past/ Future Simple (Passive Voice).**

1. Many exams ***оцениваются*** from 1 to 100 points.

2. Courses and seminars ***предлагались***by various departments.

3. Students ***зачисляются*** by colleges.

4. Professors ***назначаются*** to carry out research.

5. Students ***будут*** ***обучаться*** by faculty fellows or tutors in small groups.

6. The internship is generally ***оплачивается*** and ***проводится*** in the second and fourth year of study.

**Exercise 11. In the text below fill in the gaps using the verbs in their Active or Passive forms.**

Началоформы

1. Cambridge (like Oxford) can \_\_\_\_\_**(picture)** as a collection of colleges, each of which \_\_\_\_\_\_**(have)** its own character and individuality. 2. The Supervision System where students \_\_\_\_\_\_\_ **(receive)** tuition in small groups  \_\_\_\_\_\_ **(regard)** as one of the best teaching models in the world. 3. Each student \_\_\_\_\_\_**(have)** a tutor who practically \_\_\_\_\_\_\_**(guide)** him through the whole course of studies.
4. The Head of Studies \_\_\_\_\_\_**(appoint)** by the college to look after you academic progress, while the role of the tutor mainly \_\_\_\_\_\_ **(concern)** in protecting student’s interests and helping him or her in domestic college matters.
5. The University teaching \_\_\_\_\_\_**(consist of)** lectures and practical work, but much of time \_\_\_\_\_\_ **(spend)** in seminars and tutorials. 6. A significant part of undergraduate education \_\_\_\_\_\_ **(hold)** in university buildings.

7. Cambridge University is a leading international center and many postgraduates actively \_\_\_\_\_\_ **(engage)** in research work.

**Text 1 B**. **Our University** 

 **Vocabulary:**

|  |  |
| --- | --- |
| tertiary education | высшее и среднее профессиональное образование |
| to be famous for | быть известным / славиться  |
| to be enrolled | быть зачисленным  |
| to be good at maths | хорошо разбираться в математике  |
| to be technically minded | быть склонным к техническим науках  |
| to be interested in Physics | интересоваться физикой  |
| to take courses in | изучать курсы |
| area of interest | специализация  |
| to conduct research | проводить исследование  |
| state-of-the-art facilities  | современное оборудование  |
| to attend regular lectures | посещать занятия по расписанию |
| according to the schedule | согласно расписанию  |
| to assess achievements | оценивать успеваемость  |
| to undertake assignments | выполнять задания  |
| extra-curricular activities | внеаудиторная работа  |
| compulsory hours of sport | обязательные занятия спортом  |
| to provide with on-campus accommodation | обеспечивать университетским жильем  |
| alumni http://www.multitran.ru/gif/%5b.gifhttp://www.multitran.ru/gif/113.gifhttp://www.multitran.ru/gif/39.gifhttp://www.multitran.ru/gif/108.gifhttp://www.multitran.ru/gif/65.gifhttp://www.multitran.ru/gif/109.gifhttp://www.multitran.ru/gif/110.gifhttp://www.multitran.ru/gif/97.gifhttp://www.multitran.ru/gif/73.gifhttp://www.multitran.ru/gif/%5d.gif  | выпускники |

You are a student of Bauman Moscow State Technical University (BMSTU). It is one of the oldest technical universities in Russia. It was founded in 1830. It **is famous for** its achievements in the field of space rocketry, submersibles, armored vehicles, aerodynamics and hydrodynamics, radio electronics and others.

 Bauman Moscow State Technical University focuses on the STEM subjects (science, technology, engineering and mathematics) but also offers a number of programs in humanities. Now the student body is over 19.000. The University has adopted a two-level system of **tertiary education** (higher education): a four-year bachelor’s degree, a five-year specialist degree and master’s programs. Undergraduates are given an opportunity to choose their specialist areas at various Faculties:

- Radio Electronics and Laser Devices

- Information Theory and Control Systems

- Mechanical Engineering Technologies

- Robotics and Complex Automation

- Biological and Medical Technologies

- Power Engineering

- Special Mechanical Engineering

- Fundamental Science

- Engineering Business and Management

- Social Science and Humanities

- Aerospace Engineering

- Radio Engineering

- Rocket and Space Engineering and Technologies.

To become a student you need **to be good at** mathematics and physics, **to be technically minded** and **to be interested in** engineering challenges. To become an engineer you need **to take courses in** drawing, strength of materials, computer aided design and other engineering subjects in your **area of interest**. Besides the academic studies the students **are involved in research** and get experience during internship at plants. **Research** is **conducted** in well-equipped laboratories, workshops, wind tunnels and other **state-of-the-art facilities**.

Students are required **to attend regular lectures** and lessons in academic subjects **according to the schedule**. Lectures are given by the experienced staff. Students are taught engineering subjects and their academic **achievements are assessed** by regular progress tests. Undergraduates **undertake assignments** and have supervised homework sessions. All the students are offered access to many **extra-curricular activities**, libraries and free e-mail and internet. Undergraduates and graduates **take** at least **two compulsory hours of sports** per week. Many students **are provided with on-campus accommodation** in short distance from the University.

Actually you are **to be proud of** the University you are going to study in. By the way, do you know anything about its history and significant stages of development? What is your University famous for? What are the achievements of its **alumni**?

 (1500 characters )

**Exercise 13. Attempt to answer the following questions:**

* How old is your university? / When was the university founded?
* How many faculties does your university consist of? / How many faculties are there at your university?
* Why are so many courses in maths offered by the University?
* How many lessons do you attend every day? / What lessons do you attend on Monday and Friday?
* Do you live far from the university? / How long does it take you to get to the University?
* What facilities are offered by the university? / What equipment are the laboratories provided with?
* What campus activities are the students involved in?
* What is the term of studies at the university? / How long does the course of studies last?
* What subjects are you to be good at to become an advanced BMSTU student?
* What engineering courses are offered by your Faculty? / What courses contribute much to the career of an engineer?
* What students start engineering experiments, tests and research?
* What opportunities are given to students to conduct research?
* What way is the student academic progress assessed by?
* Why is it necessary for students to undertake assignments regularly?
* Why are compulsory hours of sport introduced in the student time table?
* What accommodation is offered by the University?-
* When and why are the students engaged in research?
* What field of engineering are you in and what influenced your choice?
* -Why is to be a BMSTU student challenging?
* Why are skillful engineers and designers required at present?

**Exercise 14.** **Study the model. Compose your own sentences and arrange them logically to make a short report on your studies at the University.**

*Model:* We write tests every week.

|  |  |  |
| --- | --- | --- |
| Regular lectures There is a fifteen minute breakClasses We  | are overhave Englishstarttake examsstudy math/physicstake exams take courses in drawingattend classes | at …a. m/ p.m.on Monday.three times a week.once/twice a week.twice a year.for lunch**.**in January.every day |

**Exercise 14. Express your point of view on the following activities and construct your own sentences as much as possible.**

|  |  |
| --- | --- |
| I find it hard/difficultI find it uselessI find it impossibleI think it my dutyI believe it necessary I consider it reasonable/ wrong I consider it my honour I suppose it challenging  | -to be a BMSTU student.- to join innovative research.-to attend regular lectures.-to take courses in humanities.-to take courses in engineering subjects.- to be involved in research for undergraduates.**-** to be good at mathematics and physics to become an  engineer. -to take compulsory hours of sport every day.-to be assessed by regular progress tests.- to be provided with on-campus accommodation. |

**Exercise 15. Which pieces of advice appeal to your heart most of all? Name those that could guide the students during the whole course of education.**

**Tips and advice for undergraduates 2015**

|  |  |  |
| --- | --- | --- |
| It’s highly desirable It is undesirable It’s vitally important It’s (hardly) necessary  | - for a student to earn Master’s degree. -for undergraduate to attend regular lectures in academic subjects.- for graduates to be involved in cutting edge research . - to be technically minded to become an engineer.**-** for BMSTU students to be interested in engineering challenges.  - for students to miss lectures and laboratory sessions.- to undertake assignment in advance.   |  |

 **Exercise 16**. **Describe the experience of being a BMSTU student**

 **( September 2015)**

|  |  |  |
| --- | --- | --- |
| IHe /she | to be calmto be very nervous to be a bit worriedto be tired ofto be impressed byto be glad to be disappointed to be sorry about to be proud ofto be happy aboutto be delighted withto be lucky  | * to make a report.
* to be assessed by progress test.
* on Friday on the last lecture.
* the new facilities and equipment.
* to attend regular lectures.
* to get top marks in Maths.
* to be provided with on-campus accommodation.
* to be offered new courses.
* to have access to many extra-curricular activities.
* the achievements in the field of engineering.
* reasonable prices of meals
* to work hard
* to undertake assignments in geometry
* lectures conducted by our professors
 |

**Exercise 17. Make up dialogues using current vocabulary on the topic.**

**Suggested Situation:**

1. You are a BMSTU student (Mechanical Engineering Department).You would like to know about the curriculum at the university you are going to stay in according to the academic exchange program.

**Student A**:

 I would like to join the …?.. course in September . Could you supply me with some information on this course?

1. How long …

2. What subjects …

3. What facilities …

4. The price…

5. The accommodation…

6. The final requirements ….

7. The types of assessment ….

8. The lectures attendance …

9. The term of study…

**Student B**. : ( the department coordinator )

**Useful language**: Speaking of the course curriculum, … / to take subjects in**…/** to take exams/ to conduct research guided by a professor , / to be assessed every month, to get degree with honors, / to attend regular lectures,/state-of-the-art facilities.

**Speaking**

**Text 1С. Subject Areas**

1. The University offers over 150 postgraduate courses across a wide-range of subject areas. They are relevant to the challenges faced by our society, industry and economy. The University has a strong internationally recognized reputation or research within science and technology with a particular focus on innovations and cutting-edge technologies. Science and technology at BMSTU embraces aeronautical, mechanical, environmentally friendly manufacturing technologies, automotive engineering and other specialist areas. Research activities are carried out under the guidance of experienced staff and involve national and international academic and industrial collaborations.

 2. Our students have access to modern dedicated facilities and equipment. There is a joint center in composites engineering and advanced materials. There are state-of-the-art engineering flight simulators and wind tunnels. The world leading research undertaken at BMSTU involve opto-electronics, micro precision engineering, computational analysis and other specialist areas. The aerospace research covers advanced materials for aircraft structures, flight dynamics as well as control systems design and simulation using analytical tools and intelligent systems.

 (1251 characters)

**Word combinations**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | a wide-range of subject areas | a | -различные направления подготовки |
| 2 | the challenges faced by our society | b | -проблемы , стоящие перед обществом |
| 3 | to have an internationally recognized reputation | c | -иметь международное признание  |
| 4 | cutting-edge technologies | d | -передовые технологии |
| 5 | under the guidance of experienced staff  | e | -под руководством опытных преподавателей |
| 6 | to have access to modern dedicated facilities and equipment | f | - работать на современном оборудовании  |
| 7 | state-of-the-art engineering flight simulators | g |  - современные авиационные тренажеры  |
| 8 | analytical tools and intelligent systems  | h | * программное обеспечение и системы с элементами искусственного интеллекта
 |

 **Exercise 19. Read Text D and answer the following questions (find answers in the right column):**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | What postgraduate courses are offered across subject areas? | a |  opto-electronics, micro precision engineering |
| 2 | What is internationally recognized reputation taken for? | b | state-of-the-art analytical tools and intelligent systems |
| 3 | What specialist areas are covered by research? | c | relevant to the challenges faced by our society. |
| 4 | What facilities and equipment do students have access to? | d | flight dynamics and control systems design  |
| 5 | What specialist areas are involved into the aerospace research? | e | research and innovations within cutting-edge technologies.  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
|  |  |  |  |  |

**Exercise 20. Describe research opportunities and equipment within your University. Prepare sentences your own sentences. Mind the word order.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Subject \_\_\_\_\_\_\_\_\_ | Predicate | Object - - - - - - | Adverbial Modifier\_.\_.\_.\_.\_ |
| 1 | Research activities | cover  | advanced materials  | in aircraft structures |
| 2 | Modern facilities | are offered  | for students  | to carry out research |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |

**Useful language:**

postgraduate courses, subject areas, international reputation, cutting-edge technologies, research activities, modern facilities, to involve, to have access to, to carry out, to offer, to cover

**Reading 2**

**Exercise 21. Read student letters and fill in the boxes.**

* **Make a review of students letters ( 10-12 sentences)**
* **Write your own Student Profile (10-12 sentences)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Student | course name \ when | Specialist area | prospects | positive |
| 1 | Andrew |  |  |  |  |
| 2 | Mitchel  |  |  |  |  |
| 3 | Peter  |  |  |  |  |
| 4. | Alex |  |  |  |  |
| 5. | Ann |  |  |  |  |

**Useful language:** to join, to learn subjects, to provide with, to become, …

**Student Profile 1** (Andrew) 

 The course is tailored to bring together all the previously studied topics and pushed me onwards into new areas such as Computational Fluid Dynamics and Advanced Aerodynamics. I joined the **Aeronautical Engineering course** two years ago with a view to fulfill my ambition of becoming a professional engineer. Both an undergraduate and Master’s degree (MSc) are required to achieve this benchmark. It took a lot of time to master this subject area. This course provides a student with analytical skills and stimulates interest in space engineering and high-speed travel. The course gives you the chance to advance your career to management levels, testing and design positions within the aeronautical industry. This is a challenging field to work in.

  **Student Research Profile 2** (Mitchel )

I became interested in solar energy while working on my undergraduate project three years ago. During my third year project I was involved in materials science research. The research project was aimed at the renewable energy sector. The idea was to come up with a coating for the outer layer of a solar panel that would allow to absorb the energy form it more efficiently. The University is very good for materials science and research. By the way the Centre for Solar Energy Research has modern facilities such as specialist microscopes and spectrometers. I appreciated working with people I could bounce ideas off. I enjoyed the internal collaboration between the groups as well as external contacts with overseas universities.

**Student Profile 3** (Peter)

If you want to be in the heart of electronic invention this course is ideal. State-of -the-art IT facilities and analytical tools support the taught and research elements of the degree. Msc the Advanced Electronic Techniques provides core analytical studies covering three areas: digital system design (microprocessors and programmable gate arrays), automatic-test system design and radio frequency design. There are options covering the fields of image processing. I am going to join this course next year. On completion of this course you will be able to progress to a job as an electronics design engineer at an advanced level. It is known that skills in digital electronics are required to develop innovations.



**Student Profile** **4** (Alex)

This is an industry focused course. The focus of this course is on the research and development in such areas as computational analysis, advanced propulsion, structural design, advanced material development and manufacturing technologies. It has strong links with industries. There is great demand for mechanical and aerospace manufacturing engineers. An engineering Masters qualification is now required if you wish to become a Chartered Engineer. State-of -the-art IT facilities and analytical tools support the taught and research elements of the degree. I would like to take Mechanical Engineering course in three years on getting my Bachelor's degree. On completion of this course you will be able to lead innovative design, development and application of new and cutting-edge technology. I am looking forward to master this course.

**Student Profile 5** (Ann)

The focus on this course will be on research and development (R&D) in such areas as computational analysis, design, advanced propulsion, structural design, composite and advanced material development. This MRes Composites was designed in collaboration with industry. This course covers the theory and mechanics of composites and environmental aspects. You will also learn the recyclability and safety issues. Completing the MRes course could lead you to a career in aircraft research. You will be able to apply modern management approaches and carry out extensive research projects. I am going to join this course in a year. Unfortunately I failed to pass my final exams last year. I was not awarded Bachelor's Degree. I hope to do my best and undertake all assignments to complete my first degree.

**Text 1 D. Historical Background** (supplementary text)

The history of our institution, Bauman MHTS (Moscow Higher Technical School) or BMSTU dates back to 1830. Emperor Nicholas I confirmed the ‘statute of the industrial school’ to open in Moscow. Vocational schools were required. The aim of the new School was to train skillful craftsmen with a solid theoretical background. In 1868 the academic standards of school were high and it was reorganized into a special institution of higher learning - the Imperial Moscow Technical School. Its major task then was to instruct mechanical and production engineers and technicians. Great success was achieved in structural mechanics, chemical and textile industries. In 1876 at the World Fair in Philadelphia “the Russian Method” of engineering education created by IMTS was recognized and highly appreciated. Lectures in theoretical subjects werecombined with the intensive industrial experience in HTS workshops. This achievement was awarded the Golden prize.

In 1918 several research institutes were launched by MHTS including TSAGI (Central Aerodynamics and Hydrodynamics Institute). The 20th century witnessed the creation of new institutes on the basis of BMSTU faculties. They are: Moscow Aviation Institute, Moscow Power Engineering Institute, Moscow State Textile Institute, Moscow Institute of Physics and Engineering, Moscow Civil Engineering Institute, Moscow Architectural Institute, Moscow Technological Institute for Food Industry, the Central Aerohydrodynamics Research Institute, the National Research Institute, the Research Institute of Automobile Engines and others.

In 1938 new departments of defence profile were opened in MHTS: armored vehicles and tanks, artillery and ammunition. The Great Patriotic War set new tasks. To meet the demands a special design bureau was set up. They succeeded in developing the entirely new antitank gun. And in 1948 a department of rocketry was added.

The history of our University is closely connected with N.E. Zhukovskiy who in 1878 established and headed the Department of Theoretical Mechanics and delivered lectures in aeronautics. Many famous scientists and specialists graduated from our School: the aircraft and rocket designers Academician A. N. Tupolev and S.P. Korolev; Academician N. A. Dollezhal, the chief designer of atomic piles; Academician S. A Lebedev, the chief designer of computers; and others. In 1989 the MHTS was conferred a new name: Bauman Moscow State Technical University (B MSTU).

 (2500 characters)

**Exercise 22. Are there any major differences between the systems of university education in Russia and Britain? Give examples to support the ideas you put forward. Fill in the boxes.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | DifferencesRussian universities | Similarities | DifferencesEnglish universities |
| Academic year |  |  |  |
| vacations |  |  |  |
| scholarship |  |  |  |
| major |  |  |  |
| books |  |  |  |
| tuition |  |  |  |
| fees |  |  |  |

**Exercise 22. Make a short report supported by slides on the following topics:**

1. The historical background of Cambridge University.
2. The historic review of the University you attend.
3. The famous achievements of your University.
4. The facilities available at your University.
5. The benefits offered by a university education.
6. The differences and similarities in the arrangement of studies (academic year,

 vacations, assessment, admission, degrees, tutorials, etc.) between Russian and UK

 universities.
7. A review of Cambridge (or Oxford, Harvard, Massachusetts university etc.)
8. Famous people and scientists (University graduates).

9. The top 100 world universities (Ranking List 2015**)**

10. Nobel Prize winners and their discoveries.