**Topic 1 University Studies**

***the role of higher education today***

Higher education plays an important role in our life today. People with higher education have an extensive knowledge base, thanks to which they can find an interesting and highly paid job for themselves. Also, higher education is our key to development: many scientists and inventors work day after day to make our lives easier and safer. Higher education is very important, because thanks to it we can develop further.

***higher education in Belarus: levels and length of study, university organisation, cost of study***

Belarus has a three-level system of higher education. It consists of bachelors degree, master’s degree and postgraduate study. Bachelor's degree usually lasts 4 years, master's degree lasts from one to two years, and postgraduate studies last 3 years. All HEIs in Belarus are made up of faculties according to the specialities they provide. The cost of studying in Belarusian universities is lower than the cost of studying in the USA and the UK. Also, everyone will try to enroll in a budget form of education, where they will not have to pay tuition fees, and they will also receive a scholarship for their studies. But after graduation they will have to work out their studies.

***advantages of getting tertiary education in Belarus***

In the Republic of Belarus, fundamentality is the main feature of higher education. You can acquire deep knowledge in all fields, but the country is mostly known for its strong scientific schools in physics, mathematics, and natural science.

***BSUIR structure***

BSUIR was founded in 1964 as the Minsk Radio Engineering Institute. Now it is one of the leading IT universities in the country. Today, the structure of the university includes 8 faculties, 32 departments, 49 specialties and the Institute of Information Technology. The course of study lasts four years. The academic year is divided into two terms. Lectures, seminars, laboratory and practical classes make up the majority of teaching time. Students are usually assessed at the end of each semester through a pass-fail system, written and oral examinations, and through a coursework in the form of projects. In the first year of study, all specialties have similar subjects, such as social sciences, higher mathematics, analytical geometry and technical drawing. Later the subjects passed in the specialties begin to differ more and more, there are subjects specialized for these specialties.

***academic and social life at BSUIR, how to reach balance***

University life is more than just lectures and exams. The Trade Union offers a wide range of entertainment and support for students. The Student Club organizes evening parties, festivals and social events. The University is proud of its Brass Band, Students’ Theatre, group of Sport Dances, and (of course) English Speaking Club. The university also hosts a large number of different creative events, contests, competitions and other extracurricular activities. All these events are organized by the student council, and anyone can become a part of it by passing the selection.

***personal traits and skills needed for university success***

I believe that in order to study well at the university, you need to have certain skills. Firstly, a person must have motivation, because without motivation he will not see the advantages of higher education and as a result will drop out of university. I think that organization is also one of the important skills, since without it a student will not be able to plan his day correctly and follow this plan, and as a result of which he will not have enough time to complete tasks. I consider adaptability to be an equally important skill, because as a result of studying, a large number of problems and questions will fall on the student and he must be able to adapt quickly and solve these problems so that they do not accumulate. Of course, there are still a large number of skills that a student should ideally possess, but I believe that the skills mentioned above are among the most important, with which a person can study at a university without major problems.

**Topic 2 Youth and Society**

***Youth issues***

The youth faces a lot of problems nowadays. Materialism is when you can’t stop shopping and amass a lot of objects around you. Offending/destructive behaviour is when you get out of social norms in public. Failure to succeed in education is when you don’t keep up with classes, have troubles in communication with your professors or groupmaters. Substance abuse is when you have addiction to illegal substances. Racism is when a person is treated unfairly based on race or some other parameter. Parental pressure is one of the most popular youth issue, when parents live through their children and expect them to achieve everything they wanted but did not have. Cyberbullying is another important issue, because on social networks people can hide their identity, be anonymous, and therefore many use it to insult or humiliate someone.

*How to solve youth problems.*

To solve materialism you would need to find other activities in your life other than shopping. To fix offensive behavior, this needs to be prevented at early stages by parents or supervisors. As for failures to succeed in education, first of all you should team up with your groupmates, as learning together is way easier than doing that alone. Also don’t hesitate to ask your lectors and other teachers for help, there’s nothing wrong in that. On the other hand, substance abuse is a way bigger problem. Here medical treatment is required. To resolve racism it is important to raise awareness of this issue worldwide, as well as to contact with other peers and community which suffered from such problems.

***Tech addiction***

Addiction is when you no longer have control over doing, taking, or using something to the point that is causing harm to you or those around you. Tech addiction is a problem when a person either cannot spend time without modern devices, or spends too much time in them. In the modern world, it is a real problem, as more and more people cannot imagine their lives without modern devices. It can be broadly defined as an inability to control one’s technology use due to a dependence developed through emotional, psychological, social, environmental, and biological factors.

Types of tech addiction are: video gaming, screen addiction, nomophobia (cellphone addiction), footage addiction, TV addiction. Types of Internet addiction are: online gambling, online shopping and cyber relationship, social media addiction.

Addiction has many negative effects. For example, people may develop vision problems, they may start to feel lonely, and it will also be difficult for them to focus on one task. Spending too much time on electronic devices may be preventing young people from in-person activities with their peers, what can lead to depression. They also experience new conditions like "fear of missing out" or FOMO, which further leads to feelings of loneliness and isolation.

There are many ways to cope with technical addiction. For example, you can install special programs that will limit the time of using the device. You can also turn off notifications to pay less attention to the phone. Another way is a special time during which it is forbidden to use the phone. Technical addiction is a real problem, but with enough effort it can be dealt with.

***Generation gap***

Generational gap is a problem when the cultural values of the younger generation are very different from the cultural and other values of the older generation. People born in different periods under different conditions have their views based on the circumstances they have been through. The patterns of life have been changing continuously according to time. Everyone wants to live and behave in his way and no one wants to compromise with his or her values and views.

There are five types of generations: Traditionalists (1925-1945) value conservative , hierarchical workplaces. Baby boomers (1946-1964) value flat, democratic, equal-opportunity, friendly workplaces. Generation X (1965-1979) value workplaces which are fast-paced, fun, informal and with access to leadership and information. Millenials (1980-1994) value workplaces which are collaborative, achievement-oriented, creative and continuously providing feedback. Generation Z (1995-2012) is motivated by security, more competitive, can multi-task, is more entrepreneurial and is digital-native.

It is always good to have a wide range of ideas, views, and opinions. It indicates how we are developing and advancing but sometimes this becomes worrisome when the views and ideas are not accepted by both generations. To prevent the generation gap we can keep an open mind, simply talk about each other’s day at the end of the day, understand each other.

**Topic 3 Career Path**

***Being a Successful Specialist.***

Success may be defined by people in different ways, but being a dedicated employee, a strong leader, and an honest person can all make a big difference in making you a successful professional in any career. No matter how you determine your goals, strengthening your skills, building professional relationships, and being a self-motivated specialist can help you to achieve success and satisfaction in your career.

Success can be defined as the size of paycheck or having the corner office. It can be the feeling you get when you know you did a great job or the one you get when you know you helped someone. The one thing all of us have in common is that, given the amount of time we spend at work, we want to at least like what we’re doing every day. Life is either too long or too short to spend time in jobs we hate. Therefore, to become a successful specialist, first of all you need to decide what kind of work brings you pleasure. Your satisfaction with your career is strongly linked to whether you feel you have met your own goals. Soft skills, such as critical thinking, problem solving, communication skills, and hard skills, related to your field of work, will help you with this.

***My Speciality.***

Professional skills in IT are universal and allow a trained specialist to feel like a sought-after employee in any country of the world. I am studying in the specialty "computing machines, systems and networks", where all professional subjects can be divided in the following proportions: 30% - computer hardware, 30% - computer software, 25% - network technologies. The remaining 15% of disciplines are either basic universal subjects, such as "Discrete Mathematics", or highly specialized disciplines. For four years at the university, both low-level - Assembler and high-level - C/C++ Java programming languages have been studied in my specialty. After graduation, specialists can hold positions such as Software engineer, QA Engineer, Infrastructure Engineer, Web Developer and others.

***Professional Development.***

To stay competitive in our careers, we must not only do our jobs well today, but be prepared for how we’ll be doing our jobs well in two, five, ten years from now. The aim of personal and professional development is to help you to manage your own learning and growth throughout your career. CPD(Continuous professional development) is process of building, supporting and enhancing your knowledge and skills. CPD activities can range from formal educational activities such as training courses, workshops or seminars to more informal approaches such as work-based learning or mentoring.

There are some important skills and experience. Employees should place more emphasis on being able to deal with conflicts and deliver on strategy to achieve tangible benefits for the business. We can call them soft skills or emotional intelligence – employers are going to seek out this attribute more and more. Because of technological advances, shifts in society, and the many unknowns of the future, employees need to be open to new ideas, flexible to pivot with changing times, and ready to adapt to changes.

CPD helps to ensure that you have the knowledge and skills necessary to succeed as a professional. It helps you to build professional confidence and the reputation of the profession.

**Topic 4 ICT Concepts**

***digital revolution***

Information and communication technologies (ICT) are a set of technologies developed to improve the efficiency of information use and improve communication. Modern information technology is a technique thanks to which the life of many people has become much simpler and easier. Thanks to ICT, it has become easier for people to communicate at a distance, quickly find various information and learn something new.

The digital era has evolved through four phases, beginning with big, expensive computers and progressing to modern digital world in which small inexpensive digital devices are everywhere.

In the first phase computers were huge, complex and expensive devices. They existed in limited numbers, primarily housed in big corporations and government agencies. The second stage was presented by personal computing which is characterized by small, standalone computers powered by local software. The third phase of the digital revolution materialized as computers became networked and when the Internet was opened to public use. Cloud computing characterized the fourth phase of the digital revolution. Cloud computing provides access to information, applications, communications and storage over the Internet.

***data processing (data vs information)***

Data refers to the symbols that represent people, events, things, and ideas. In everyday conversation people use the terms data and information interchangeably. Nevertheless, some technology professionals make a distinction between the two terms. They define data as is any raw facts or observations that describe a particular phenomenon that represents people, events, things and ideas. Data becomes information when it is presented in a format that people can understand and use. Data is used by machines, such as computers, information is used by humans. Information is simply data that has a particular meaning within a specific context. Information may be data that has been processed in some way. When we speak of data processing, the input is data, the output is useful information. So, data processing is a series of actions or operations that convert data into useful information.

***digital devices (types)***

Now commonly used computer categories include personal computers, servers, mainframes and supercomputers. A personal computer is a microprocessor-based computing device designed to meet the computing needs of an individual. It provides access to a wide variety of local and cloud-based applications. The term server has several meanings. It can refer to computer hardware, to a specific type of software, or to a combination of hardware and software. In any case, the purpose of a server is to serve computers on a network by supplying them with data. A mainframe computer is a large and expensive computer capable of processing data for hundreds or thousands of users. Mainframes are generally used by businesses or governments to provide centralized storage, processing and management for large amounts of data. A computer falls into the supercomputer category if it is one of the fastest computers in the world. Because of the speed, supercomputers can tackle complex tasks and compute-intensive problems that just would not be practical for other computers.

***hardware components (component system, clamshell, slate devices)***

Computer hardware is a collective term used to describe any of the physical components of an analog or digital computer. The term hardware distinguishes the tangible aspects of a computing device from software, which consists of written, machine-readable instructions or programs that tell physical components what to do and when to execute the instructions.

Computer have three main hardware sections:

· The CPU – a microprocessor chip which used for processes data and coordinates activities of other chips; CPU or central processing unit have three typical parts: the control unit, which examines instructions from memory and executes them; the arithmetic and logic unit(ALU), which performs arithmetic and logical operations; the registers, high-speed units of memory used to store and control data.

· The main memory – holds the instructions and data which are being processed by the CPU. Have a two main sections: RAM(Random Access Memory) and ROM(Read Only Memory); We have many types of storage: magnetic disk and optical disc, hard disk – magnetic disk with a large storage capacity, flash memory - is solid rewritable memory: it is non-volatile.

· Peripherals are the physical units attached to the computer.

***the Issue of e-waste***

E-waste contains a list of chemicals that are harmful to people and the environment. When electronics are mishandled during disposal, these chemicals end up in our soil, water, and air. We can solve the problem of e-waste by being more mindful about where our e-waste ends up. We can limit how much we produce and the impact it has on the environment. With the flood of e-waste growing around the world, recycling alone will not be enough. In order to reduce e-waste, manufacturers need to design electronics that are safer and more durable, repairable and recyclable. Most importantly, this means using less toxic materials.

**Topic 5 Software**

***Software Basics: categories and programs. OS Basics.***

The term software was once used for all non-hardware components of a computer. Software determines the tasks a digital device can help you accomplish. The instructions that tell a computer how to carry out a task are referred to as a computer program. These programs form the software that prepares a computer to do a specific task, such as document production, virus protection, file management, or Web browsing.

The two main categories are system software and application software. Operating systems are classified as system software. Device drivers, utilities, and programming languages are also system software. Application software categories include music, graphics, mapping, finance, and entertainment. Application software is designed to help people accomplish real-world tasks, whereas system software is designed for computer-centric tasks.

An Operating System (OS) is the low-level software that supports a computer's basic functions, such as scheduling tasks and performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers. An Operating System is an interface between a computer user and computer hardware.

***Applications and Apps: mobile, Web, local.***

A Web application (or Web app) is software that is accessed with a Web browser. Instead of running locally, much of the program code for the software runs on a remote computer connected to the Internet or other computer network. Most Web apps require no installation at all on your local computer or handheld device.

A mobile app is designed for a handheld device, such as a smartphone, or tablet computer. Most handheld devices can use both Web apps and mobile apps. The difference between the two is that Web apps run on a remote computer, whereas mobile apps run from the handheld device, so they have to be downloaded and installed. Games and entertainment seem to dominate mobile apps, whereas shopping and social apps dominate the Web apps category.

Local applications are installed on a computer's hard disk. When you install a local application, all of its files are placed in the appropriate folders on your computer's hard disk, and then your computer performs any software or hardware configurations necessary to make sure the program is ready to run.

***Buying and Installing Software. Software Licenses. Software Piracy.***

A copyright is a form of legal protection that grants the author of an original work an exclusive right to copy, distribute, sell, and modify that work. In addition to copyright protection, computer software is often protected by the terms of a software license. A software license, or license agreement, is a legal contract that defines the ways in which you may use a computer program. Based on licensing rights, proprietary software is distributed as commercial software, demoware, shareware, freeware, and open source software.

Software piracy refers to illegal using, copying and/or distributing a piece of software that’s subject to copyright. The software in question can mean digital goods such as video games, other computer programs or operating systems. According to the Business Software Alliance (BSA), about 36% of all software in current use is stolen. Software piracy has more than 1 form, such as сopying a software program that you purchased legitimately in order to distribute it to other end users like friends, family, or anyone else through online means like torrenting; using a method known as “cracking” to access protected & copyrighted software that you didn’t purchase and others.

**Topic 6 Networks**

***Types of networks (wired, wireless, LAN, WAN, MAN, PAN).***

A Computer Network is a group of two or more interconnected computer systems that use common connection protocols for sharing various resources and files. Data in a network with wired connections travels from one device to another over cables, phone lines and high-speed optic cables. Wired connections are fast, secure and simple to configure. An example of wired network technology is Ethernet. . A wireless network transports data through the air, eliminating the need for cables. Wireless connections transport data as RF signals (radio frequency signals), microwaves and infrared light beams. Satellites - for long distances, Wi-Fi - for medium-range distances, Bluetooth - for short distances.

Networks can be classified according to their size and geographic scope (PAN, LAN, MAN, WAN).

A PAN (PERSONAL AREA NETWORK) allows you to connect smart devices or consumer electronics within a radius of 10 meters without using wires or cables. A LAN (LOCAL AREA NETWORK) is a data network that connects personal computers within a very limited area – usually in the same building. A MAN (METROPOLITEN AREA NETWORK) covers a campus or city and is widely used in cable television networks available throughout the city. A WAN (WIDE AREA NETWORK) covers a large geographical area and consists of several small networks.

***Network topologies.***

Networks can be classified according to their topology, or layout: In a bus network, all the computers are connected to a main cable called bus. In a star network, all data flows through a central hub, a common connection point for the devices in the network. In a ring network, all devices are connected to one another in a closed loop configuration, or ring. There are also mixed topologies, such as three, a group of stars connected to a central bus.

***Web basics.***

Components The Internet consists of many systems that offer different facilities to users, www, the World Wide Web, is a network of documents that works in a hypertext environment, i.e. using text that contains links, hyperlinks to other documents

***The Internet technology. IoT.***

The Internet of Things (IoT) is the concept of basically connecting any device with an on and off switch to the Internet (and/or to each other). This includes everything from cellphones, coffee makers, washing machines, headphones, lamps, wearable devices and almost anything else you can think of.

**Topic 7 Information System**

Most organizations use information systems to operate more effectively, gather information, and accomplish tasks. The term information system refers to a system that uses computers and usually includes communications networks. An information system collects, stores, and processes data to provide useful, accurate, and timely information. Because organizations have different missions and face different problems, they require different kinds of information systems. Examples are online transaction processing system, management information system, decision support system and others.

***The SDLC (planning, analysis, design, implementation, maintenance phases).***

An information system progresses through several phases as it is developed, used, and finally retired. These phases encompass a system development life cycle, usually referred to as the SDLC known as System Development Life Cycle, which provides a general outline of how an information system evolves and delineates the phases of system development.

* The Planning phase for an information system project includes the following activities: assemble the project team, justify the project, choose the development methodology, develop a project schedule, produce a project development plan. The goal of these activities is to create a Project Development Plan.
* The Analysis phase begins after the project team selects a development methodology, draws up the Project Plan, and receives permission to proceed from management. The goal of the analysis phase is to produce a list of requirements for a new or revised information system. Activities for analysis phase are: study the current system, determine the system requirements, and write requirements report.
* In the Design phase the project team must figure out how the new system will fulfil the requirements specified in the System Requirements Report. The project team chooses a solution, selects hardware and software, and designs detailed application specifications.
* During the Implementation phase of the SDLC, the project team supervises the tasks necessary to construct the new information system. The tasks that take place during the implementation phase can include: purchase and install hardware and/ or software, create applications, test applications, finalize documentation, train users, convert data, convert to new system.
* The Maintenance phase is the last and the longest SDLC phase and it lasts until the system is retired. It involves day-to-day operation of the system, making modifications to improve performance, and correcting problems. Three key concepts ensure good quality of maintenance service: reliability, availability, and serviceability. The term quality of service (QOS) refers to the level of performance a computer system provides. Typical maintenance phase activities ensure that the system functions as well as possible.

***System security.***

Threats against information systems are increasing. As with personal computers, common threats to corporate information systems include natural disasters, power outages, equipment failures, human errors, software failures, security breaches, acts of war, and malware. Threats to a corporate information system can affect thousands of people.

Companies can take steps to protect their customers and deal quickly with identity theft incidents, but no computer system can be completely risk-free. Several proactive measures can protect information systems from threats. These measures can be grouped into four deterrents, preventive countermeasures, corrective procedures and detection activities.

* Deterrents reduce the likelihood of deliberate attack. Both physical deterrents, such as limiting access to critical servers, and common deterrents, such as multi-level authentication, password protection, and biometric identification fall under this category.
* Preventive countermeasures shield vulnerabilities to render an attack unsuccessful or reduce its impact. Firewalls that prevent unauthorized access to a system and encryption that makes stolen data indecipherable are examples of preventive countermeasures.
* Corrective procedures reduce the effect of an attack. Data backups, disaster recovery plans, and the availability of redundant hardware devices all are examples of corrective procedures.
* Detection activities recognize attacks and trigger preventive countermeasures or corrective procedures. For example, antivirus software detects viruses entering a system and can be configured to perform corrective procedures such as removing the virus and quarantining infected files.

**Topic 8 Computer Programming**

***Programming paradigms and programming languages.***

The phrase programming paradigm refers to a way of conceptualizing and structuring the tasks a computer performs. Today’s most popular programming paradigms are:

* Event-driven - Focuses on selecting user interface elements and defining event-handling routines that are triggered by various mouse or keyboard activities.
* Procedural - Emphasizes linear steps that provide the computer with instructions on how to solve a problem or carry out a task.
* Object-oriented - Formulate programs as a series of objects and methods that interact to perform a specific task.
* Declarative - Focuses on the use of facts and rules to describe a problem.

Programming languages can be divided into two major categories: low-level languages (machine languages and assembly languages) and high-level languages (based on human languages).

***OOP.***

Object-oriented programming (OOP) is a programming paradigm based on the concept of "objects", which can contain data and code. The data is in the form of fields (often known as attributes or properties), and the code is in the form of procedures (often known as methods).

OOP languages are diverse, but the most popular ones are class-based, meaning that objects are instances of classes, which also determine their types. A class is a template for a group of objects with similar characteristics.

In object-oriented jargon, inheritance refers to passing certain characteristics from one class to other classes. A superclass is any class from which attributes can be inherited. A subclass (or «derived class») is any class that inherits attributes from a superclass. The set of superclasses and subclasses that are related to each other is referred to as a class hierarchy.

A method is a segment of code that defines an action. A method is activated by a message, which is included as a line of program code, sometimes referred to as a «call». Polymorphism, sometimes called «overloading», is the ability to redefine a method in a subclass. It allows programmers to create a single, generic name for a procedure that behaves in unique ways for different classes. Polymorphism provides OO programs with easy extensibility and can help simplify program code.

***Game programming.***

Game programming is the creation of software that runs video games, including the game engine, user interface, physics engine, graphics, sound, and AI. The most commonly used programming languages in game programming include C++, Java, and Python, and game programmers must have a deep understanding of computer science and mathematics, as well as a strong sense of design and a passion for gaming.

***AI (VR, AR, MR, machine learning, deep learning).***

Artificial intelligence is a technology, or rather a branch of modern science that studies ways to train a computer, robotic equipment, analytical system to think intelligently as a person. Example tasks in which this is done include speech recognition, computer vision, translation between (natural) languages, as well as other mappings of inputs.

VR (Virtual reality) - an artificial digital environment where users also hear sounds and see artificial images around them.

AR (Augmented reality) - this technology allows you to see the real world by supplementing it with digital content.

MR (Mixed reality) is a kind of augmented reality, but more interactive because the user interacts with it.

Machine learning is a class of artificial intelligence methods, the characteristic feature of which is learning through the use of solutions to many similar problems.

Deep learning is part of a broader family of machine learning methods based on artificial neural networks with representation learning.

***Robotics.***

Robotic involves the development of technical systems based on various disciplines such as electronics, mechanics, cybernetics, and computer science. Robotics can be applied in different areas such as construction, industry, household, medical, aviation, military, space, and underwater. Building and programming robots are challenging tasks, but specialized programming languages such as ROS, Python, and MATLAB simplify the process. Robotics programming includes different approaches such as behavior-based robotics, control-based robotics, and evolutionary robotics.

A robotic technological complex (abbreviated RTC) is a system consisting of one or more high-tech devices that operates autonomously and performs multiple cycles. In general, there are three main **types** of robotic complexes:

RTC of the first type. They are formed on the basis of an industrial robot and auxiliary devices. In this case, the robot loads and unloads the equipment. RTC of the second type. They consist of several industrial robots, as well as secondary devices. At the same time, industrial robots in this case, in addition to unloading and loading, transport parts between operations.

In the RTC of the third type, industrial robots, in addition to the above functions, are engaged in other work.

**Topic 9 Digital security**

***Security basics.***

Digital security is the protection of digital information from internal and external malicious threats. This protection includes detecting, preventing, and responding to threats through security policies, software tools, and IT services.

There are two main types of digital security. Physical security is the protection of personnel, equipment, software, networks, and data from physical actions, intrusions, and other events that may harm an organization. An example of a common physical security threat is an attacker who infiltrates an organization and uses a USB drive to copy and delete sensitive data or physically deliver malware directly to systems. Information security is the protection of any data by using and creating certain programs, encryption, and the like.

***Password security.***

A password is a series of characters that verifies a user ID. Password security is the most common protection of any data from hackers. But such protection is not reliable, since it is necessary to set passwords according to certain rules, if they are not followed, then there will be no point in using this type of digital security protection.

***Hardware security.***

Hardware security is a discipline that includes hardware design, access control, secure computing, secure storage of keys and passwords, code authentication, and the like.

***Malware.***

Malware (malicious software) is software created to damage or change the computer data or its operations.

These are main types of malware:

Viruses are programs that spread by attaching themselves to executable files or documents. Any code that is designed to hide the existence of processes and privileges is referred to as a rootkit. Worms are self-copying programs that can move from one computer to another without human help, by exploiting security flaws in computer networks. Trojan horses are malicious programs disguised as innocent-looking files or embedded within legitimate software. Spyware, software designed to collect information from computers for commercial or criminal purposes, is another example of malicious software

***Social engineering.***

Social engineering is the psychological manipulation of people to perform actions or disclose confidential information. In cybercrime, these “human hacking” scams tend to lure unsuspecting users into disclosing data, distributing malware, or providing access to restricted systems. Attacks can occur online, in person, and through other interactions.

As its name implies, baiting attacks use a false promise to pique a victim’s greed or curiosity. They lure users into a trap that steals their personal information or inflicts their systems with malware. Scareware involves victims being bombarded with false alarms and fictitious threats. Users are deceived to think their system is infected with malware, prompting them to install software that has no real benefit (other than for the perpetrator) or is malware itself. Pretexting- Here an attacker obtains information through a series of cleverly crafted lies. The scam is often initiated by a perpetrator pretending to need sensitive information from a victim so as to perform a critical task. As one of the most popular social engineering attack types, phishing scams are email and text message campaigns aimed at creating a sense of urgency, curiosity or fear in victims. It then prods them into revealing sensitive information, clicking on links to malicious websites, or opening attachments that contain malware.

***Encryption.***

Encryption is the basic building block of data security. Encryption transforms a message or data file in such a way that its contents are hidden from unauthorized readers. An original message or file that has not yet been encrypted is referred to as plaintext or cleartext. An encrypted message or file is referred to as ciphertext. The process of converting plaintext into ciphertext is called encryption. The reverse process—converting ciphertext into plaintext—is called decryption.

**Topic 10 Job Hunting**

***Looking for a job.***

Job hunting involves more than searching for open positions and sending your resume to employers. You also need to make sure you’re a good fit for the job, can catch the hiring manager’s attention and are well-prepared to answer interview questions.

* Build your professional brand. Create profiles on LinkedIn and other networking sites. A strong personal brand that portrays you in a professional light will provide recruiters, employers, and contacts with a strong positive impression of you as a candidate they should be interested in.
* Create your resume/CV and Cover Letter. It’s important to take the time to write targeted résumés and cover letters that specifically link your qualifications to the hiring criteria for the jobs you are applying for.
* Connect with your contacts. Connect with everyone you know, because you never know which contact may be able to help you with your job search or put you in touch with someone who can.
* Keep your job search focused. Use the job search engines to find jobs by using keywords that match your interests and the location where you want to work. Narrowing your search criteria will help you focus your job search and will give you more relevant job listings
* Create a list of companies you’d love to work for. It’s a good idea to research company information and create a list of companies to target in your job search. You can do some special outreach to get your application noticed and get email notifications for new job openings immediately after they are posted.
* Be clear and simple when describing the job you want. If you express interest in any open position in a company, the hiring manager will likely not take you seriously among other candidates.

***Writing a CV/Resume.***

A resume or CV (Curriculum vitae) is a brief document that summarizes you as a job candidate. Most resumes include educational history, applicable skills (hard and soft skills) and summary of qualifications (official certifications or workplace achievements).

***Cover letter.***

A cover letter is a detailed document that shows hiring managers your desire for a particular job. It is an opportunity to demonstrate more of your personality than you can on your resume. Throughout the letter, you can discuss specific items listed in the job description and how your skills and experience match those requirements.

You should adapt your resume to each job you apply for. Study the job description to determine why you are a great fit. Then, add your skills, experience and measurable achievements that are relevant to that position. Hiring managers who look through many resumes should be able to read yours and quickly know that you have the skills for the position.

***Job interview.***

The job interview is probably the most important step you will take in your job search journey - it’s your best chance to show the a hiring manager that you’re the best person for their job. Preparing for an interview primarily means taking time to thoughtfully consider your goals and qualifications relative to the position and employer. Before your interview, you should have a good understanding of why you want the job and why you’re qualified. Researching the company you’re applying to is an important part of preparing for an interview. It will also help you when preparing thoughtful questions for your interviewers. Modern companies usually have social media accounts and blogs that discuss their company culture and industry. This information can give you an impression of the tone and personality of the company, as well as what they value. You should also consider the answers to common interview questions.