

Electronic Branch

1. Technical Drawing / AutoCAD 10

The subject of Technical Drawing and AutoCAD is given with the most social methods of imagining the forms of various objects or objects of nature. Drawing is done with or without technical drawing tools, with freehand in the form of a sketch, which serves to quickly make a graphic presentation of the item or natural object. If done with tools, it takes the form of working drawing. In either case, we have we do by presenting different objects with the given dimensions ready to be produced or vice versa, when the drawing is done, the student should be able to read it, to create the idea and imagination about the object presented. In AutoCAD students mostly learn how to make it possible realization of drawing of various natural objects through the computer in 2D (in plan) and 3D (in space). These are accomplished through learning the basic AutoCAD commands as well as visualization of objects in space. These rely on practices where different exercises are constantly done from the simplest to the most difficult, from the pictures to the summary drawings, etc.

2. Economy - Introduction to Business 10

Through this course students are provided with basic knowledge in the field of business starting with roles economic that each individual plays in daily life (role as a consumer, as an employee and as a citizen for the creation of the common good). This course also deals with the most effective ways to management of income and savings with the lowest possible risk and the highest possible profit, protection through insurance against economic losses, how this insurance works and why it is needed. Students gain knowledge about the development of foreign trade and domestic functions of banks, inflation, deflation, the economic role of the state and its functions

3. ICT-Computer application (Programming C ++, Java) 12, 13

The course syllabus aims for students to gain basic knowledge in the field of programming: in languages C ++ and Java addressing the basic concepts of programming in them. The C ++ course deals with variables and constants, reading and displaying data, classes, functions, standard libraries and arrays. The next course deals with the Java programming language. Once students are familiar with the syntax of the Java language and its changes to the C ++ language they learn to program in the GUI using components Swing. At the end of the school year students should be able to create programs with graphical interfaces that contain various components such as windows, buttons, check box, combo box, menu etc. as well as program games that help develop their skills for building complex algorithms. Students manage to complete the knowledge in this field and further train in the field of programming. The program is supported by modern didactic and laboratory materials.

4. Digital systems 11

Through this program the student is provided with knowledge in the field of digital electronics, on which is based on all digital techniques for areas such as: Information Technology, Telecom and Radio Television. The basics of Bool algebra are given, the analysis and synthesis of medium and high degree of integration numerical circuits. In this program the student studies construction of TTL and CMOS circuits, decoders, encoders, data transformation technology from analog to digital and vice versa. The program contains

exercises and laboratory work that affect mastering the subject and form the student professionally. The course is based on a foundation didactic materials and modern laboratory equipment. Also, so that students benefit and the practical side of numerical and analog systems, participate in independent work by building practically the schemes they theoretically adopt from the book of digital systems.

5. Electrical Engineering 11

This course, otherwise known as "Basics of calculating electrical circuits", is one of the basic courses of Training of electronic, computer technician. It aims to implant basic concepts on sizes electrical, the main laws operating in electrical circuits, bringing these circuits under the action of the size of the input, as well as the interaction of the circuit elements. The program addresses the basic circuits for direct current and sinusoidal alternating current, how circuits behave towards these currents, physical phenomena arising in the relations of these sources with the elements of electronic circuits, active resistances and reactive resistors, coils and capacitors. The program contains a cycle of exercises where habits are created practical and the phenomena treated theoretically are confirmed. The course is supported by a work cycle laboratory where students have the opportunity to recognize and use electronic measuring devices for it experiment and visually follow the phenomena that occur in these circuits.

6. Electronics 11, 12

This program introduces students to the elements of electronics that participate in the construction of all electronic apparatus. The course aims to provide basic knowledge in the analysis of diode circuits and bipolar transistors (BJTs), the use of BJTs as low and high frequency amplifiers. Operation of FET circuits, MOS transistor and JFET, analysis of amplifiers with FET at frequencies low, FET model at high frequencies, etc. Topics are accompanied by exercises and laboratory work which help in the acquisition of the subject and the scientific and professional training of the students. Content relies on a didactic material base and modern laboratory equipment.

7. Telecommunications 12, 13

The program aims for students to gain basic knowledge on telecommunications networks and services that provide communication systems. In particular, it deals with the structure of communication systems, the importance of standardizations and protocols in the communication process, processing techniques analog and digital signals. This program also addresses the basic modulation techniques that enable the transmission of telephone conversations over the digitized network, the key technologies of communication and the differences between them and the main applications implemented in computer systems. The program aims to provide basic knowledge about NGN (new generation networks) systems, broadcasting of voice in VOI data networks, TV broadcasts with IPTV technology. Topics are associated with practical and laboratory demonstrations.

8. Computer Network 13

The course aims for students to gain basic knowledge on the administration of computer networks, on communication in computer systems and services provided by computer networks. The course deals technologies applied to networks such as Ethernet, wireless networks, routers and communication media used in them. Students are also introduced to the basic equipment used in computer systems, their configurations, analysis and study of network performance. Work intensively on basic programs of computer networks (Finisar Survey, Net challenge, Cisco Packed Tracer) in order to learn computer

package simulations in these programs and then implementing them practically through of Cisco network equipment. Basic knowledge on system security will also be obtained communication.

9. Computer architecture 12

The course studies the architecture of computer systems that are today the foundation of applications with it advanced in the field of electronics, in the field of information and communication technology, for robotic and medical systems. The rapid development and widespread application of electronic systems creates a constant demand for professionals skilled in programming and using systems computerized. Students are provided with knowledge that enables them to adapt quickly to processors computer systems and applications based on them. The course aims to elaborate on architecture processor hardware and software. Description of the architecture and analysis of the processor structure explains the connection of components and the operation of each of them. Programming in assembler language completes basic knowledge of using the most popular x86 family of processor systems.

10. Electronic metering 13

The course studies the construction and use of electronic measuring devices for measuring the sizes of various electronic and non-electronic. The course gives students the opportunity to use measuring devices for experimentation, maintenance and prophylaxis of electronic devices. Students learn sensors of different to make measurements and maintain equipment of different fields such as: medical, construction, mechanical, automobile, etc., where electronic measuring devices are widely used.

11. Principles of Database 13

In this course students get the concepts needed for a good understanding of base design data. The course introduces them to the database environment, typical users and concepts of DBMS architecture. The course syllabus introduces them to data modeling, the scheme conceptual focusing on the relational model and the E-R diagram. Students are also introduced to the model relational (RDBMS), integrity conditioning and update actions. During the course development a detailed description and knowledge of the SQL language is made. In particular, the emphasis in this subject is on training the student for a better design and use of the database. Also, during the development of the course general and applied knowledge on one or two technologies of database management with the aim of applying the acquired theoretical knowledge.

12. Professional Practice 12, 13

The internship program through the connection of theory with practice enables students professionally in maintenance and use of electronic equipment in areas such as: Information Technology, Telecom and Robotics. The internship takes place in school laboratories which are equipped with basic work tools electronic experimental materials, modern measuring apparatus and equipment of the mentioned fields upper. Students build their own blocks of electronic circuits, which they control through measuring apparatus and repairing them if the blocks have defects. The program also deals with field equipment of electronics to program and use them. The practice goes further with the configuration, management and monitoring of computer systems (such as Windows / Linux / Unix servers), networks computer and database networks. Also, students participate in various projects in the field of electronics by building various schemes of sensors, amplifiers, signal converters, filters and generators. Other projects in which

students participate are in the field of robotics where the student succeeds at a very high professional level building robotic equipment from the base of electronics to advanced robotics.