



## Course Descriptions

**ELEC 111 ELECTRONICS I – BASIC ELECTRICITY AND ELECTRONICS (6 Units)** – Study of fundamentals of electronics such as electronic schematic diagrams, components, and circuits, functions and use of electronics tools and instruments, AM and FM principles and basic elements of radio servicing, and assembly of AC-DC converter transistor radio.

**ELEC 122 ELECTRONICS II – THEORY OF AMPLIFIERS (6 Units)** – Study of semiconductors, transistors, integrated circuits and analog switching logic, speaker system, audio recorder and stereo amplifier servicing, and assembly of stereo amplifier.

**ELEC 213 ELECTRONICS III – DIGITAL CIRCUITES DESIGN (6 Units)** – A detailed study of switching logic using digital logic gate such as inverter, AND gate, NAND gate, OR gate, NOR gate, XOR gate, XNOR gate, parity circuits etc. It covers the study and design of all flip-flops circuits, timer, basic design of counters, shift registers and clocks, design and programming of safety and controls system of digital circuits. It updates the students on the use and study of advanced digital approach in the modern world of technology.

**ELEC 224 ELECTRONICS IV – AUDIO AND VIDEO SYSTEMS (6 Units)** – study of antenna system, elements of television systems and basic video recorder servicing. Application of electronics theory in actual troubleshooting and repair of electronics instruments and application.

**ELEC 225 ELECTRONICS V – SERVICING TECHNIQUES W/ CELL PHONE REPAIR (6 Units)** – this course present a comprehensive course in electronics servicing techniques necessary for an electronics technician or students just starting to do servicing. It present Troubleshooting principles that are helpful in repairing power supplies, amplifiers, cell phone and other electronics equipments.

**ELEC 226 ELECTRONICS VI – COMPUTER HARDWARE AND NETWORKS (6 – Units)** – This course focuses in the detailed study of components of computer systems, its assembly, repair and configuration. The course also includes the study of computer network concepts, the computer network configurations, cabling, network implementation and repair.

**ELEC 311 ELECTRONICS VII – C LANGUAGE PROGRAMMING (3 Units)** - detailed study of C/C++ programming language; syntax, description, modularity and parameters, functions, recursions, data types and structures, input-output operations, iteration, function declaration, recursion, and file manipulation.

**ELEC 312 ELECTRONICS VIII – INDUSTRIAL ELECTRONICS (6 Units)** – detailed study in theory and operation of electronic devices and control circuits for industrial processes; industrial control applications, measurement systems, electronic instrumentation, transducers, and data acquisition systems.

**ELEC 321 ELECTRONICS IX – ASSEMBLY LANGUAGE PROGRAMING (3 Units)** - detailed study of assembly language programming language; syntax, description, modularity and parameters, functions, recursions, data types and structures, input-output operations, iteration, function declaration, recursion, and file manipulation.

**ELEC 322 ELECTRONICS X – INDUSTRIAL INSTRUMENTATION (6 – Units)** – This course discusses the design and construction of basic electronics instruments. It also includes the study in important parameters and design in industrial instrumentation systems.

**ELEC 411 ELECTRONICS XI – MICROPROCESSOR (6 –Units)** - This course is designed to equip the students with the fundamental concepts of the microprocessor system and their applications. It also serves as an introduction to computer organization and architecture. It focuses on practical exercises with emphasis on microprocessor programming, interfacing, and controllers. Lectures on microprocessor organization and programming, microprocessor architecture, system components, interfacing techniques and interfacing standards are complemented by laboratory work.

**ELEC 412 ELECTRONICS XII – COMMUNICATION THEORY (6 - Units)** - This courses focus on the principles of communication systems with emphasis on signal modulation and transmission. Topics include design of filters and noise reduction circuits; amplitude, frequency, and phase modulation circuits; pulse modulation; time and frequency division multiplexing.

**ELEC 421 ELECTRONICS XIII – PROJECT DESIGN (3 Units)** This course discusses the operating performance of basic electronic appliance. It also discusses basic electronic security systems, industrial electronics and instrumentation systems. Topics include analysis and design of consumer appliance and basic automation systems.