BSC. MAJOR IN ELECTRONICS

The Department of Computer Science, Mathematics & Physics offers a Major and Minor in Electronics. The purpose of this programme is to present a comprehensive background of the fundamental concepts, technology and terminology of electronic components and devices, and the application of these components to modern electronic devices.

Students will be:

- Exposed to a wide cross section of electrical/electronic theory (Kirchhoff's Laws, Thevenin Theorem, etc.) and basic electronics components (resistors, capacitors, transistors, etc.).
- Provided with practical experience building and experimenting with electronic devices and components (Circuit Design and Troubleshooting).
- Presented with relevant and modern concepts and technologies that they might encounter in the working world.
- Prepared for employment in areas such as Telecommunications, Medical Instrumentation or Embedded Electronics.

Provided below is a complete list of all the courses offered in the Major in Electronics:

MAJOR IN ELECTRONICS:

LEVEL I

ELET1200 Basic Circuit Analysis

ELET1210 Digital Electronics I

ELET1215 Digital Electronics II

ELET1220 Introduction to Electronics

COMP1205 Computing I

MATH1190 Calculus A

And 30 Credits from Level II & III Electronics courses as indicated below:

LEVEL II

At Least Twelve (12) Credits (Four Courses) From:

ELET2215 Microprocessor Systems

ELET2220 Circuit Simulation & Applications

ELET2225 Discrete Component Electronics

ELET2230 Digital Communication Systems I

ELET2235 Automation Technology & Applications

ELET2240 Sensor & Actuation Devices

PHYS2400 Mathematical Methods in Physics I

LEVEL III

At Most Eighteen (18) Credits (Six Courses) From:

ELET3215 Microcontroller Technology

ELET3220 Control Systems

ELET3230 Essentials of Digital Signal Processing (DSP)

ELET3235 Digital Communication Systems II

ELET3240 Digital Communication Systems III

ELET3250 Biomedical Instrumentation

ELET3255 Wireless Communications

ELET3260 Advanced Microprocessors & Systems

ELET3290 Semester Electronics Research Project

ELET3295 Major Electronics Research Project

ELET3298 Group Electronics Research Project

ELET3955 Electronics Internship

MINOR IN ELECTRONICS (FIFTEEN LEVELS II/III CREDITS):

Fifteen (15) Credits (Five Courses) From:

ELET2215 Microprocessor Systems

ELET2220 Circuit Simulation & Applications

ELET2225 Discrete Component Electronics

ELET2230 Digital Communication Systems I

ELET2235 Automation Technology & Applications

ELET2240 Sensor & Actuation Devices

PHYS2400 Mathematical Methods in Physics I

ELET3215 Microcontroller Technology

ELET3220 Control Systems

ELET3230 Essentials of Digital Signal Processing (DSP)

ELET3235 Digital Communication Systems II

ELET3240 Digital Communication Systems III

ELET3250 Biomedical Instrumentation

ELET3255 Wireless Communications

ELET3260 Advanced Microprocessors & Systems

ELET3290 Semester Electronics Research Project

ELET3295 Major Electronics Research Project

ELET3298 Group Electronics Research Project

MINOR IN MEDICAL ELECTRONICS [Fifteen (15) Credits]:

ELET2225 Discrete Component Electronics

ELET2240 Sensor & Actuation Devices

ELET3215 Microcontroller Technology

ELET3220 Control Systems

ELET3250 Biomedical Instrumentation

A student with a Minor in Medical Electronics cannot count any of these courses as part of their Major or Minor in Electronics.

Equivalences between Old and New Electronics Courses for the Purpose of Fulfilling Major and Minor Requirements.

OLD COURSE	**NEW COURSE**
ELET1100 Circuit Analysis	ELET1200 Basic Circuit Analysis
ELET1110 Digital Electronics	ELET1210 Digital Electronics I
No Equivalent	ELET1215 Digital Electronics II
ELET1120 Basic Electronics	ELET1220 Introduction to Electronics
No Equivalent	ELET1205 Computer Aided Design
ELET2110 Circuit Simulation	ELET2220 Circuit Simulation and Applications
ELET2120 Discrete Device Electronics	ELET2225 Discrete Component Electronics
ELET2130 Digital Communications	ELET2230 Digital Communication Systems I
ELET2100 Microprocessors I	ELET2215 Microprocessor Systems
ELET2150 Automation Technology	ELET2235 Automation Technology and Applications
ELET3210 Sensors & Actuator Technology	ELET2240 Sensors and Actuation Devices
ELET3041 Microcontrollers & Applications	ELET3215 Microcontroller Technology
ELET3110 Control & Instrumentation	ELET3220 Control Systems
ELET3130 Introduction to Digital Signal Processing (DSP)	ELET3230 Essentials of Digital Signal Processing (DSP)

ELET3151 Digital Communications II	ELET3235 Digital Communication Systems II
None	ELET3240 Digital Communication Systems III
ELET2140 Medical Instrumentation	ELET3250 Biomedical Instrumentation
None	ELET3255 Wireless Communications
None	ELET3260 Advanced Microprocessors and Systems
ELET3160 Electronics Research Project	ELET3290 Semester Electronics Research Project
ELET3160 Electronics Research Project	ELET3295 Major Electronics Research Project
ELET3160 Electronics Research Project	ELET3298 Group Electronics Research Project

If persons want to:

- Enter the Telecommunications industry
- Enter the Medical Instrumentation industry
- Perform Embedded Electronics Design and Programming
- Teach Electronics
- Build Robotics

Then this degree is for you!

For further details on the Electronics programme, contact the Discipline Coordinator for the Electronics Programme – Dr. Ramon Sargeant, via email at ramon.sargeant@cavehill.uwi.edu, or via telephone at (246) 417-374 or (246) 417-4365.