TECH-VOC TRACK
ICT STRAND
COMPUTER PROGRAMMING
(Software Development)

Grade 11 - 1st Semester

CORE SUBJECTS	HOURS
Oral Communication	80
Komunikasyon at Pananaliksik sa Wikang Filipino at Kulturang Pilipino	80
General Math	80
Earth and Life Science	80
Understanding Culture, Society and Politics	80
Physical Education and Health	20
SPECIALIZED SUBJECTS	
Introduction to Information Technology	80
Computer Programming	80
TOTAL HOURS	580

Grade 11 - 2nd Semester

CORE SUBJECTS	HOURS
Reading and Writing	80
Pagbasa at Pagsusuri ng Ibat-Ibang Teksto Tungo sa Pananaliksik	80
Statistics and Probability	80
Physical Science	80
Personal Development	80
Physical Education and Health	20
CONTEXTUALIZED SUBJECTS	
Research in Daily Life 1	80
SPECIALIZED SUBJECTS	
Object-Oriented Programming	80
Data Structures	80
TOTAL HOURS	660

Grade 12 - 1st Semester

CORE SUBJECTS	HOURS
21st Century Literature from the Philippines and the World	80
Introduction to Philosophy of the Human Person	80
Physical Education and Health	20
CONTEXTUALIZED SUBJECTS	
English for Academic and Professional Purposes	80
Research in Daily Life 2	80
Pagsulat sa Filipino sa Piling Larangan	80
Empowerment Technologies (E-tech): ICT for Professional Tracks	80
SPECIALIZED SUBJECTS	
Core Java Programming	80
Database Management Programming	80
TOTAL HOURS	660

Grade 12 - 2nd Semester

CORE SUBJECTS	HOURS
Contemporary Philippine Arts from the Regions	80
Media and Information Literacy	80
Physical Education and Health	20
CONTEXTUALIZED SUBJECTS	
Entrepreneurship	80
Research Project/Culminating Activity	80
SPECIALIZED SUBJECTS	
Web Programming	80
Mobile Computing	80
Work Immersion	80
TOTAL HOURS	580

INTRODUCTION TO INFORMATION TECHNOLOGY

This is a study of computers as data processing tools. It introduces students to the fundamentals of using computer systems in an Internet environment. Topics include the functional organization of computers, Boolean algebra and logic design, basic operating system principles, I/O devices, file systems, basic network architecture, the Internet, and software development life cycle.

COMPUTER PROGRAMMING

This course is designed to introduce students to the concepts of logic formulation and computer programming using C++ as the implementing programming language. This course gives emphasis to program logic
formulation and problem solving techniques. Topics include C++ fundamentals, control structures, functions and structured/modular programming, arrays, string processing, recursive processing, pointers, and program documentation.

OBJECT-ORIENTED PROGRAMMING

This course is an introductory course in object oriented programming. The fundamental concepts of object oriented programming will be studied using the C++ programming language. Topics include object-oriented concepts, classes and objects, inheritance, constants and references, polymorphism and virtual functions, operator overloading, multiple inheritance and RTTI, templates, and exception handling.

DATA STRUCTURES

This course provides students with an understanding of the role of data structures and algorithms as building blocks in most computer programs. The course covers concepts of abstract data; types of common data structures used; description, properties, and storage allocation of data structures, including lists and trees; algorithms for creating, updating, and manipulating data structures; relationship between the execution of an algorithm and the choice of data structures. This course will also discuss fundamental computing algorithms such sorting and searching.

CORE JAVA PROGRAMMING

This course prepares students to develop real-world projects using Java. Topics include review of object-oriented programming, Java basics, exception handling, input/output facilities, user interfaces using AWT, multithreading and networking, Applets, collections API, JDBC, swing classes, and Java foundation classes.

DATABASE MANAGEMENT SYSTEMS

This course emphasizes the effective and efficient use of database management systems. Topics include relational database management systems, ER diagrams, database normalization, using MS SQL server, data manipulation language, data definition language, advanced SQL statements, and creating database applications.

WEB PROGRAMMING

This course provides students with an overview of the Internet, its history, its underlying technologies and its architecture. The course starts out with the HTTP protocol as the basic mechanism a web server uses to deliver content to a client such as a web browser, voice browser, or small-screen mobile device. The students will then study in detail the use of HTML, CSS, and JavaScript to create and deliver web pages to the user's desktop via a browser. This course primarily concentrates on client side web programming

MOBILE COMPUTING

This course teaches students how to develop applications for mobile devices. Topics include mobile application development using multiple development environments, application deployment, security, and efficient power management.