

ESSENCE STATEMENT

The Computer Science curriculum at Senior School aims to equip a learner with competencies, skills and attitudes in computing principles, concepts and techniques. The competencies acquired will enable a learner to design, implement and manage computing systems that provide social, economic, industrial and technological solutions for national development. The curriculum design encompasses theoretical and practical aspects of foundations of computer science, computer networking and software development. These aspects will equip a learner with problem-solving, critical thinking and analytical skills through learner centred, experiential and inquiry-based learning approaches. The curriculum design is intended for a learner who would like to pursue a professional career in Computer Science or related disciplines.

This learning area is anchored on National Goals of Education No. 2 which aims to provide the learners with the necessary skills and attitudes for industrial development, Kenya Vision 2030 on making education responsive to education needs, Sessional Paper No 1 of 2019, which recommended the promotion of technical and vocational education with an emphasis on Science, Technology, and Innovation (ST&I) in the school curriculum. It is also informed by the second pillar of Africa Agenda 2063 and the National ICT Policy of Kenya 2016 (revised 2020), which emphasises on use of ICT as a foundation for the creation of a more robust economy.

GENERAL SUBJECT LEARNING OUTCOMES

By the end of Senior Secondary School, the learner should be able to:

- a) Use knowledge, skills and values acquired in computer science to perform daily life activities.
- b) Practise ethical and safe use of computer technology in society.
- c) Develop computer applications for solving real world problems.
- d) Configure and manage computer networks for effective resource sharing.
- e) Initiate career and entrepreneurship opportunities in the field of computer science.
- f) Adapt to the dynamic digital world to cope with the changing needs of the society.

SUMMARY OF STRANDS AND SUB STRANDS

1.0 FOUNDATION OF COMPUTER SCIENCE

- 1.1 Evolution of Computers
- 1.2 Computer Architecture
- 1.3 Input/Output (I/O) Devices
- 1.4 Computer storage
- 1.5 Central Processing Unit (CPU)
- 1.6 Operating System (OS)
- 1.7 Computer setup

2.0 COMPUTER NETWORKING

- 2.1 Data communication
- 2.2 Data Transmission Media
- 2.3 Computer Network Elements
- 2.4 Network Topologies

3.0: SOFTWARE DEVELOPMENT

- 3.1 Computer Programming Concepts
- 3.2 Program development
- 3.3 Identifiers and Operators
- 3.4 Control Structures
- 3.5 Containers
- 3.6 Functions