



CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN CERTIFICATE OF SECONDARY LEVEL COMPETENCE®

**INTEGRATED SCIENCE
SYLLABUS**

Effective for examinations from May–June 2014

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Correspondence related to the syllabus should be addressed to:

The Pro-Registrar
Caribbean Examinations Council
Caenwood Centre
37 Arnold Road, Kingston 5, Jamaica

Telephone Number: + 1 (876) 630-5200

Facsimile Number: + 1 (876) 967-4972

E-mail Address: cxcwzo@cxc.org

Website: www.cxc.org

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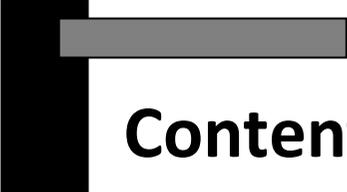
The Garrison, St Michael BB14038, Barbados

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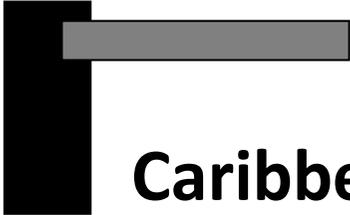


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Caribbean Certificate of Secondary Level Competence

INTRODUCTION

The Caribbean Examinations Council (CXC) in consultation with policy makers and educators in CXC Participating Territories identified the need for a new programme that *would* respond to the changing demands of the education sector. A major development *has been* the move by all territories to universal secondary education *which* enables persons with a wide range of abilities to benefit from educational provision at this level. The decision to implement programmes to achieve universal secondary education is based on an understanding that the region needs a well educated and trained labour force for an increasingly competitive global environment. A sound secondary education foundation is imperative for further education and training *and for entry in the world of work*.

Several territories, *having* recognised the need for a programme that *would* meet the new needs in secondary education, had embarked on the development of national programmes. However, through consultations at the regional level, policy makers and educators recognised that a regional intervention by CXC *would* have several benefits including cost-effectiveness, *common standards*, portability of certification and regional and international recognition.

CXC has responded. Through the consultative processes employed in syllabus development, *CCSLC was developed* and first examined in 2007. The programme which is competency-based comprises a core of subjects – English, Integrated Science, Mathematics, Modern Languages and Social Studies. Through this core, the learner should acquire the knowledge, skills, competencies, values and attitudes that are desired in a secondary school leaver. The core developed by CXC subject panels will be examined by CXC. In addition, learners can gain additional benefit through special programmes that may be added as electives to the core at national level.

Policy makers and educators have noted that, ideally, this core programme could be taken by all students at the stage when they are ready. However, the decision on who should take the examination and in what year it will be taken will be *made* at national level in consultation with CXC. A person who successfully completes this core should have the foundation for further education and training and for entry level employment. In developing and implementing this programme at the secondary level, CXC, working with its partners, took into consideration the cultural context and the aspirations of regional governments for a well educated and trained labour force to meet the targets set for social and economic development *as enshrined in the CARICOM document “The Ideal Caribbean Person (2000)”*. *The foundation that this programme will provide is an imperative as a base for the development of citizens as the most valuable resource of the small states of the region.*

The main focus of this programme is derived from the aspirations of regional governments and the Caribbean Community (CARICOM) which acknowledge that education is the route to healthy democracies and sustainable development. The curriculum is therefore competency based and encompasses the knowledge, skills, attitudes, values and attributes expected of high school graduates by regional Governments. Some of these knowledge, skills, attitudes, values and attributes or competencies are generic and cut across all five subjects, whilst others are peculiar to each of the five subjects of the curriculum. The generic and subject specific competencies targeted for development in the curriculum are given below.

GENERIC COMPETENCIES

- PROBLEM SOLVING
- CRITICAL THINKING
- INFORMED DECISION MAKING
- MANAGEMENT OF EMOTIONS
- POSITIVE SELF CONCEPT
- WORKING IN GROUPS
- HANDLING CONFLICT
- DEALING WITH DIVERSITY AND CHANGE
- INDEPENDENT LEARNING STRATEGIES
- COMPUTER LITERACY
- TECHNOLOGICAL LITERACY

SUBJECT-SPECIFIC COMPETENCIES

- ABILITY TO COMMUNICATE ORALLY AND IN WRITING
- ABILITY TO FUNCTION IN A FOREIGN LANGUAGE
- MATHEMATICAL LITERACY
- SCIENTIFIC LITERACY
- SOCIAL AND CITIZENSHIP SKILLS

COMPETENCIES

The structure of the programme takes into consideration that the attainment of the competencies identified is the result of processes that require life-long learning and that mastery is attained by progressive steps over differing periods of time. Bearing in mind that one of the main purposes of the curriculum is to prepare individuals to participate fully as productive members of society, key competencies have been identified that are essential for daily living with emphasis on the workplace. A Learning Grid (Appendix I) lists the key competencies across the five subjects of the curriculum, identifies a reference number and indicates the subjects or group of subjects that specifically engage the learner in its development.

OUTCOMES OF THE CURRICULUM

The curriculum hinges on the realisation that teaching and learning are essential instruments for the development of autonomous individuals who will be able to function effectively as productive members of society. In this regard, the curriculum has identified knowledge, skills, attitudes, values and attributes or competencies that students who master the programme should have attained. These include:

- a positive image of self, family, community, region and world;
- respect for others irrespective of age, class, creed, gender, ethnicity, physical disabilities or nationality;
- an abhorrence of violence in all its forms and commitment to settle disputes through arbitration and conciliation;
- the capacity to understand that individual freedom is consonant with the acceptance of personal responsibility for one's own actions;
- commitment to ethical and moral societies that recognise equality of opportunity, freedom of expression and association, and the right to fair judicial process.

Main Elements of the Curriculum

- *It provides the foundation for knowledge, skills and attitudes required for secondary education.*
- It provides the foundation for further education and training and for entry level employment.
- It provides articulation between and within subject groups offered in the Caribbean Secondary Education Certificate (CSEC) examination by catering for students who continue at secondary school to take General Proficiency examinations in academic or technical and vocational or a mix of academic and technical and vocational subjects.
- It facilitates articulation within the wider school curriculum and responds to the developmental needs of the region.

Integrated Science Syllabus

◆ RATIONALE

Integrated Science is an interdisciplinary subject which provides students with the opportunity to study issues relevant to Science in everyday life. Such study integrates perspectives from various disciplines including Biology, Chemistry, Physics, Earth Science and others.

An understanding of science is central to a young person's preparedness for life in modern society. It enables an individual to participate fully in a society in which science and technology play a significant role. This understanding also empowers individuals to participate appropriately in the determination of public policy where issues of science and technology impact their lives. The inclusion of Integrated Science in the school curriculum will contribute significantly to shaping the quality of life through promotion of personal health practices and respect for the environment. The programme, therefore, aims at providing Caribbean learners with the knowledge, skills, values and attitudes that would help them negotiate an increasingly complex and dynamic technological environment in which they have to live and work, as well as contribute positively to the region and the world.

This course of study will contribute to the development of the Ideal Caribbean Person as articulated by the CARICOM Heads of Government who has respect for human life and is aware of the importance of living in harmony with the environment; demonstrates multiple literacies, independent and critical thinking and the innovative application of science and technology to problem solving. Based on the UNESCO Pillars of Learning, on completion of this syllabus, students will learn to do, learn to be and learn to transform themselves and society.

◆ AIMS

The study of Integrated Science is intended to assist students to:

1. develop knowledge, skills, attitudes and values of science for lifelong learning;
2. develop an appreciation of the role of science in fostering a safe and healthy lifestyle;
3. develop an awareness of the value of science in solving everyday problems *and making informed decisions*;
4. *develop scientific literacy to function effectively* within an increasingly technological and scientific global environment;
5. appreciate the need to contribute to sustainable development through *living in harmony with the environment*;
6. *develop important life skills such as problem solving and critical thinking.*