PUBLIC SCHOOL PROGRAMS

2003–2004

- GOALS AND POLICIES
- PROGRAM & COURSE DESCRIPTIONS
- SERVICES, PROCEDURES & PUBLICATIONS

NOVA SCOTIA
Department of Education

Public School Programs

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- Goals and Policies
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Foreword

This handbook is produced for school boards, school administrators, and teaching staffs. It presents the goals and policies of public school education in Nova Scotia, describes what students should know and be able to do (essential graduation learnings) if the goals are to be reached, and describes the programs and courses offered in the public school program. School boards, school administrators, and teaching staffs are to use the information provided in this handbook as the basis of their programs.

Programs and courses are elaborated beginning with Section E. Information on publications and resources is found in Section U.

This handbook is also available on the Department of Education's Web site at <doc-depot.EDnet.ns.ca>.

Individual paper copies may be requested from Nova Scotia Department of Education, English Program Services, PO Box 578, Halifax NS B3J 2S9, Canada, or ordered on-line from the Document Depot Curriculum Shopping Cart at <www.EDnet.ns.ca>.

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The Goals of Public Education

The Goals of Public Education

The primary mandate of the public school system in Nova Scotia is to provide education programs and services for students to enable them to develop their potential and acquire the knowledge, skills, and attitudes needed to contribute to a healthy society and a prosperous and sustainable economy.

Preparing All Students for a Lifetime of Learning

Fundamental changes are occurring in the world. The economy is becoming more diversified and is placing a greater emphasis on information-based enterprises, global competitiveness, and sustainable development. Society is becoming more diverse in family structure, language, culture, values, and perspectives. There is a growing awareness of global interdependence among peoples and nations. Nova Scotia's future is becoming more reliant upon partnerships and collaboration.

To function successfully in this changing environment, all children in Nova Scotia need a broad-based, quality education. Quality in education is demonstrated by the excellence of individual courses, programs, and shared experiences. Quality is also demonstrated by the diversity of educational experiences in which students are actively involved and by the extent to which individual student needs are met.

The challenge of education is to offer a school experience that will provide students with opportunities to develop the understanding, skills, and attitudes necessary to become lifelong learners capable of identifying and solving problems and dealing effectively with change. Students need well-developed organizational and interpersonal skills, which include working collaboratively with others and developing leadership skills. Students need to be able to communicate clearly, competently, and confidently from a broad knowledge base to make thoughtful and responsible decisions. Achieving these educational goals will allow students to make connections between what they learn and how they live.

Fundamental to achieving these goals is the development of each student's self-esteem. Self-esteem is most effectively fostered by a learner-centred school environment that provides opportunities for all students to experience success from a variety of achievements. This success should enable learners to build confidence regarding their abilities and competencies and, more importantly, foster an image of themselves as persons of dignity and value who deserve respect. To this end, educational programs, services, and the teaching/learning environment must be sensitive to the culture and heritage of learners and must actively promote anti-racist principles.

Our vision of an educated person is that of a competent, confident learner able to think critically and participate fully in a democratic society and in a lifetime of meaningful work. A sound education provided in partnership with the home and the community forms the basis for students to become healthy and caring persons, having a respect for self and others and a desire to contribute to society as productive citizens.

A comprehensive education must offer a balanced program of studies that includes opportunities to explore the cultural, aesthetic, social, intellectual, physical, vocational, and moral aspects of society. All partners in education must work together to provide a stimulating and supportive environment to assist individuals in reaching their full potential.

Essential Graduation Learnings

Public school education in Nova Scotia has two major goals: to help all students develop to their full potential cognitively, affectively, physically, and socially and to help all students acquire the knowledge, attitudes, and skills necessary for them to continue as thinking, learning, physically active, valued members of society.

The department believes that these goals can best be reached if school communities help students to develop in certain areas of learning called *essential graduation learnings*. These areas cross traditional subject boundaries and are not the monopoly of any one discipline. The Department of Education has identified six areas of learning:

< aesthetic expression
< citizenship
< communication
< personal development
< problem solving
< technological competence

The departments of education of Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland and Labrador, through the Atlantic Provinces Education Foundation (APEF), have developed statements describing what all students should know and be able to do in these areas of learning by the time they graduate. The essential graduation learnings are as follows:

Aesthetic Expression: *Graduates will be able to respond with critical awareness to various forms of the arts and be able to express themselves through the arts.*

They will, for example, be able to

< use various art forms as a means of formulating and expressing ideas, perceptions, and feelings
< demonstrate understanding of the contribution of the arts to daily life, cultural identity and diversity, and the economy
< demonstrate understanding of the ideas, perceptions, and feelings of others as expressed in various art forms
< demonstrate understanding of the significance of such cultural resources as theatres, museums, and galleries

Citizenship: *Graduates will be able to assess social, cultural, economic, and environmental interdependence in a local and global context.*

They will, for example, be able to

< demonstrate understanding of sustainable development and its implications for the environment
< demonstrate understanding of Canada's political, social, and economic systems in a global context
< explain the significance of the global economy on economic renewal and the development of society
< demonstrate understanding of the social, political, and economic forces that have shaped the past and present and apply that understanding in planning for the future
< examine human rights issues and recognize forms of discrimination
< determine the principles and actions of just, pluralistic, and democratic societies
< demonstrate understanding of their own and others' cultural heritage and cultural identity and of the contribution of multiculturalism to society

Communication: *Graduates will be able to use the listening, viewing, speaking, reading, and writing modes of language(s) and mathematical and scientific concepts and symbols to think, learn, and communicate effectively.*

They will, for example, be able to

< explore, reflect on, and express their own ideas, learnings, perceptions, and feelings
< demonstrate understanding of facts and relationships presented through words, numbers, symbols, graphs, and charts
< present information and instructions clearly, logically, concisely, and accurately for a variety of audiences
< demonstrate a knowledge of the second official language
< interpret, evaluate, and express data in everyday language

< access, process, evaluate, and share information
< critically reflect on and interpret ideas presented through a variety of media

Personal Development: *Graduates will be able to continue to learn and to pursue an active, healthy lifestyle.*

They will, for example, be able to

< demonstrate preparedness for the transition to work and further learning
< make appropriate decisions and take responsibility for those decisions
< work and study purposefully both independently and in groups

- demonstrate understanding of the relationship between health and lifestyle
- discriminate among a wide variety of career opportunities
- demonstrate coping, management, and interpersonal skills
- demonstrate intellectual curiosity, an entrepreneurial spirit, and initiative
- reflect critically on ethical issues

Problem Solving: *Graduates will be able to use the strategies and processes needed to solve a wide variety of problems, including those requiring language and mathematical and scientific concepts*.

They will, for example, be able to
- acquire, process, and interpret information critically to make informed decisions
- use a variety of strategies and perspectives with flexibility and creativity for solving problems
- formulate tentative ideas and question their own assumptions and those of others
- solve problems individually and collaboratively
- identify, describe, formulate, and reformulate problems
- evaluate ideas and examples and ask for explanations
- ask questions, observe relationships, make inferences, and draw conclusions
- identify, describe, and interpret different points of view and distinguish fact from opinion

Technological Competence: *Graduates will be able to use a variety of technologies, demonstrate an understanding of technological applications, and apply appropriate technologies for solving problems.*
They will, for example, be able to
- locate, evaluate, adapt, create, and share information using a variety of sources and technologies
- demonstrate understanding of, and use, existing and developing technologies
- demonstrate understanding of the impact of technology on society
- demonstrate understanding of ethical issues related to the use of technology in a local and global context

Essential Graduation Learnings and the School Program

Providing opportunities for students to achieve the Essential Graduation Learnings is a shared responsibility within the whole school community—none of the six "learnings" is the monopoly of one subject or discipline alone, and none is to be developed in isolation from the others. For instance, enabling students to use language as a tool for learning is the responsibility of all teachers; activities in math or science classes centring on problem solving may develop both problem-solving skills and aesthetic expression.

Aesthetic Expression

Aesthetic expression begins with an aesthetic awareness or sensitivity that engages both thoughts and feelings. That awareness involves a kind of knowing that goes beyond the acquisition of information. It has to do with knowing on a deeper level; with understanding the contexts of time, place, and community; and with internalizing human experiences and expression in a unique manner. For example, students in a social studies class may read a poem about an event or create a drama or dance to represent it, and thus deepen and enhance their understanding.

Aesthetic expression, then, has to do with response to experiences and involves the students directly. In responding or expressing aesthetically throughout the curriculum, students become aware of such qualities as rhythm, repetition, unity, symmetry, contrast, sequence, climax, balance, harmony, counterpoint, pace, and tone.

The arts, in particular, are concerned with deepening students' sensitivities and extending their aesthetic mode of knowing. Through direct engagement in the arts, whether it be in music, science, dance, math, visual arts, or language arts class, students learn about themselves and society and their potential for contributing to the interplay of ideas, emotions, and values that shape society.

For example, mathematical equations and theoretical proofs can evoke an aesthetic response for some. For students in science, an understanding of the resilience and fragility of nature and the interdependence and importance of all life forms may be an aesthetic experience. For others, movement experienced as a participant or as an observer has aesthetic meaning.

Opportunities to develop aesthetic awareness enable students to recognize the importance of aesthetic expressions in their daily lives (whether it be the music they listen to, the videos they view, the local art gallery they visit, the buildings around them, or their own poetic musings) as those expressions enrich and shape self and community, cultural identity, and diversity.

Citizenship

Citizenship education involves helping students develop the knowledge, skills, and attitudes that will enable them to have a sense of belonging and to understand, actively participate in, and contribute positively to local, regional, national, and global communities.

To this end, all students engage in co-operative learning experiences that enable them to practise the democratic principles upon which their society is based. Through the study of Canada and its development, students develop an understanding of the foundations of their democratic society. Multiple learning opportunities inside and outside the classroom enable students to develop and demonstrate their understanding of the rights and

responsibilities of Canadians, the rule of law and the ways changes to the law might be made, and the dynamics of the pluralistic and multicultural society in which they live.

Throughout the public school program, students will be assisted to become informed and responsible Canadian citizens who can think creatively and critically, make judgments in an informed way, solve problems and negotiate conflict, and actively participate in the democratic process.

Communication

Communication involves articulating and interpreting information, ideas, or emotions to learn, create, or inform. To communicate, we use not only written and spoken language, numbers, and symbols, but also images, gestures, movement, music, and other sounds.

In all disciplines, language serves two very important functions: it is an instrument for learning and a means of communicating. Through formulating tentative thoughts in language, we give order and meaning to information, experiences, and concepts and so come to understand them better. In all subject areas, small group talk and exploratory writing provide students with opportunities to use language for learning.

Research shows a close connection between a student's growth in language use and his/her growth in thinking ability. Even as they use language for communication, students make ideas clearer for themselves. Through language, we make our thoughts known to others. To develop the ability to use language as an instrument for learning and communication, students need opportunities to talk and write in all subject areas for a variety of audiences and purposes. They also need to read and listen thoughtfully and sensitively.

Students calculate, estimate, measure, and use mathematics and science concepts in a wide range of disciplines. In making connections to language arts, social studies, and physical education, to name just three areas of study, students frequently interpret data found in everyday life, make judgments about

their interpretations, and communicate their judgments and reasoning to others, usually using everyday language but also using the signs and symbols of mathematics.

All disciplines may provide opportunities for students to represent or clarify their ideas, knowledge, or emotions using images in, for example, drawings, photographs, or video. Students may also use movement, music, or other sounds in various combinations with language and images to give richness and complexity to their communication.

Personal Development

The public school program offers students opportunities to develop their intellectual potential and to develop attributes that promote individual, social, emotional, and physical well-being. The school program at all levels provides opportunities for fostering students' growth as collaborative and independent lifelong learners who can take responsibility for their own health and lifestyle.

The program also affords students opportunities to discover their particular interests and abilities. Each subject area engages students in reflecting on how they they learn as well as what they have learned, so that they might better know themselves as learners and build on their learning strengths. Many subject areas offer learners career education and opportunities to reflect on and integrate their personal, family, school, and community experiences to facilitate lifestyle and career choices.

All students need learning experiences that help them to understand themselves and to co-operate, negotiate, and build strong relationships with others. Experiences that help students develop entrepreneurial spirit and initiative, respond to opportunities to participate in their community, and be flexible in their outlook are important components of the public school program.

In addition, the learning environment and learning experiences must help students to acquire the knowledge, skills, and attitudes needed to lead healthy and active lives. A healthy, active lifestyle includes a commitment to lifelong learning and includes a commitment to positive lifestyle choices. Active, healthy living pursuits lead to an enriched use of leisure time and recognition of the importance and benefits of personal physical fitness.

The public school program provides opportunities for learners to discuss and express their own ideas and feelings, question and clarify their own values and beliefs, and examine ethical issues from critical perspectives. Students need learning experiences that enable them to gain an understanding of and commitment to the principles of fairness and equity. The public school program offers opportunities for students to focus on these issues so they may deal with others in a respectful way.

Problem Solving

In all subject areas, students demonstrate the important techniques of problem solving as they try to identify, describe, and reformulate problems from a variety of different perspectives; as they express their tentative ideas to others; as they explore, generate, and develop ideas; and as they listen and respond to the ideas of others, reflecting critically on the methods chosen and learning from mistakes as well as successes.

Students demonstrate the important techniques of problem solving as they show curiosity and open-mindedness, ask for explanations, make generalizations and supply specific evidence, question their own assumptions and those of others, read critically, and evaluate ideas and examples.

Technological Competence

In the public school program, technological competence involves an understanding of the interrelation of technology, society, and the environment and the ability to use technology to manage information.

All subjects help students to understand how technology shapes and is shaped by society and to become aware of the risks and benefits that result from technological development. Students also theorize about how technological problem-solving strategies can be used to take advantage of opportunities for innovation.

In all subjects, students write and manipulate their writing using word processing; in many subjects, students access and manage data in databases and spreadsheets and use information networks.

Students who face academic or physical challenges also explore technology as a facilitative tool.

School Programs

School Programs

Principles of Learning

The public school program is based on principles of learning that teachers and administrators should use as the basis of the experiences they plan for their students. These principles include the following:

Learning is a process of actively constructing knowledge.

Therefore, teachers and administrators have a responsibility to
- < create environments and plan experiences that foster investigating, questioning, predicting, exploring, collecting, participating in educational play, and communicating
- < engage learners in experiences that encourage their personal construction of knowledge, for example, hands-on, minds-on science and math; drama; creative movement; artistic representation; writing and talking to learn
- < provide learners with experiences that actively involve them and are personally meaningful

Students construct knowledge and make it meaningful in terms of their prior knowledge and experiences.

Therefore, teachers and administrators have a responsibility to
- < find out what students already know and can do
- < create learning environments and plan experiences that build on learners' prior knowledge
- < ensure that learners are able to see themselves reflected in the learning materials used in the school
- < recognize, value, and use the great diversity of experiences and information students bring to school
- < provide learning opportunities that respect and support students' racial, cultural, and social identities
- < ensure that students are invited or challenged to build on prior knowledge, integrating new understandings with existing understandings

Learning is enhanced when it takes place in a social and collaborative environment.

Therefore, teachers and administrators have a responsibility to
- < ensure that talk, group work, and collaborative ventures are central to class activities
- < see that learners have frequent opportunities to learn from and with others
- < structure opportunities for learners to engage in diverse social interactions with peers and adults
- < help students to see themselves as members of a community of learners

Students need to continue to view learning as an integrated whole.

Therefore, teachers and administrators have a responsibility to
- < plan opportunities to help students make connections across the curriculum and with the world outside and to structure activities that require students to reflect on those connections
- < invite students to apply strategies from across the curriculum to solve problems in real situations

Learners must see themselves as capable and successful.

Therefore, teachers and administrators have a responsibility to
- < provide activities, resources, and challenges that are developmentally appropriate to the learner
- < communicate high expectations for achievement to all students
- < encourage risk-taking in learning
- < ensure that all students experience genuine success on a regular basis
- < value experimentation and treat approximation as signs of growth
- < provide frequent opportunities for students to reflect on and describe what they know and can do
- < provide learning experiences and resources that reflect the diversity of the local and global community

< provide learning opportunities that develop self-esteem

Learners have different ways of knowing and representing knowledge.

Therefore, teachers and administrators have a responsibility to

< recognize each learner's preferred ways of constructing meaning and provide opportunities for exploring alternative ways
< plan a wide variety of open-ended experiences and assessment strategies
< recognize, acknowledge, and build on students' diverse ways of knowing and representing their knowledge
< structure frequent opportunities for students to use various art forms music, drama, visual arts, dance, movement, crafts as a means of exploring, formulating, and expressing ideas

Reflection is an integral part of learning.

Therefore, teachers and administrators have a responsibility to

< challenge their own beliefs and their practices based on continuous reflection
< reflect on their own learning processes and experiences
< encourage students to reflect on their learning processes and experiences
< encourage students to acknowledge and articulate their learnings
< help students use their reflections to understand themselves as learners, make connections with other learnings, and proceed with learning

The Learning Outcomes Framework

Through an ongoing process, the Department of Education is developing a learning outcomes framework for each area of the program. The learning outcomes framework consists of a series of curriculum outcomes statements describing what knowledge, skills, and attitudes students are expected to demonstrate as a result of their cumulative learning experiences in the primary-graduation continuum. General curriculum outcomes statements identify what students are expected to know, be able to do, and value upon completion of study in a curriculum area. General curriculum outcomes statements provide the organizational structure for other learning outcomes statements and reflect the "big ideas" in that subject area. Key-stage curriculum outcomes statements identify what students are expected to know and be able to do by the end of grades 3, 6, 9, and 12 as a result of their cumulative learning experiences in a curriculum area. Specific curriculum outcomes statements identify what students are expected to know and be able to do at the end of a particular grade level or a particular course. Curriculum outcomes for a subject area are described in a foundation document and in one or more curriculum guides. The foundation document articulates general curriculum outcomes and key-stage curriculum outcomes. The curriculum guides provide specific curriculum outcomes for each grade level and suggestions for instructional and assessment strategies.

Teachers and administrators are expected to refer to the outcomes framework to design learning environments and experiences that reflect the principles of learning and the needs and interests of the students.

Using the learning outcomes framework will help teachers design integrated learning experiences. Many of the curriculum outcomes of various subject areas overlap and may be achieved most effectively when subjects are integrated. The department encourages teachers to seek opportunities for interdisciplinary experiences whenever it is meaningful to do so. It is through such experiences that students come to see how various areas of learning are interrelated. Administrators should provide leadership in establishing organizational and scheduling patterns for instruction that facilitate natural interrelating of subject areas.

Resource Programming and Services

The programming and services provided by resource teachers are intended to assist students experiencing learning difficulties in achieving the outcomes of the Public School Programs curriculum or, in the case of students with an Individual Program Plan, their individualized outcomes. The collaboration that is critical to ensuring the essential relationship between learning outcomes and support is facilitated through the participation of both resource and classroom teachers in the program planning process as outlined in the *Special Education Policy Manual* and in *Supporting Student Services: Resource Programming and Services*. Within the context of this process, resource teachers have a core role that includes

- sharing of knowledge and expertise regarding special needs
- assisting in research, selection, and/or development of materials and resources appropriate to the needs of the individual learner
- contributing to the assessment of the student by helping to ascertain how the student learns
- sharing of pertinent informal and formal assessment information for the purpose of program planning
- assisting in the selection and adaptation of instructional strategies to meet student needs
- collaborating with classroom teachers, other involved professionals, and parents/guardians regarding the preparation of referrals and the development, implementation, and evaluation of programming to meet the specific needs of individual students
- providing direct services to students in class and/or in a resource setting
- assisting in transition planning for students with special needs

The role played by resource teachers requires specific and enhanced competencies in the following areas:

- knowledge and application of special education policy and related documents at the provincial and school board levels
- knowledge and understanding of the characteristics of learners
- skills and strategies in assessment, evaluation, and reporting specific to students with special needs
- knowledge and application of instructional content and practice
- skill in communicating and working in collaborative partnerships

Specific competencies within each of these areas are detailed in the Department of Education document *Supporting Student Success: Resource Programming and Services* (2002).

Programming for Students with Special Needs

Adaptations and Individual Program Plans (IPPs)

Instructional strategies, materials, and resources must be adapted to meet the diverse needs and varying rates and patterns of learning of all students from elementary through senior high school.

The *Special Education Policy Manual* (1996) elaborates on adaptations:

Teaching practice necessarily includes the use of a variety of teaching strategies to enable students to meet or to extend their learning beyond the designated outcomes. The manipulation of additional variables such as time, classroom organization, and evaluation techniques will also be necessary to meet individual student needs. Provided the designated outcomes are not substantially altered, these procedures do not require an individual program plan, although specific changes should be documented in the student's cumulative file, e.g., oral evaluation in place of written evaluation, curriculum compacting, etc.

When the manipulation of instructional variables is not sufficient to address student needs in the context of the prescribed curriculum, the program planning team is responsible for the development of an individual program plan. Program plans should be developed in the context of the broad curriculum outcomes for each core program. For students whose special needs include non-academic areas, the individual program plan should detail the outcomes involved and the supports

and services needed to enable the student to reach these outcomes. (See *Special Education Policy Manual*, 1996.)

Administrators should make every reasonable effort to ensure that individual students who display outstanding academic, musical, artistic, linguistic, or physical abilities are given opportunities to develop these abilities. The needs of most gifted students can be met in the regular classroom; however, individual program planning may be necessary to enable students to extend learning beyond designated outcomes. (*Special Education Policy Manual*, Policy 2.6, *Challenge for Excellence: Enrichment and Gifted Education Resource Guide*, 1999)

NOTE: IPPs approved by the school board are recognized as credit courses and count towards a High School Graduation Diploma.

Parental Involvement

Parents/guardians have a right to be involved in and informed about their children's educational programs. Parents/guardians have extensive knowledge of and experience with the special needs of their children. As the primary advocates for their children, they have an obligation to take an active role in sharing this knowledge with the school. Their involvement in program planning can be invaluable in meeting individual needs.

Each school is responsible for involving parents/guardians in and informing them of decisions regarding the assessments designed for their children. Written parental consent is required for any formal individual assessment carried out by employees of the board or persons/agencies to whom the student has been referred. (*Special Education Policy Manual*, Policies 2.4, 2.5, and 3.1)

Funding

In addition to general formula funding, the Department of Education provides grants to each school board to assist with the costs of programming and services for students with special needs. The funds provided through the Special Education Grant must be used to supplement the cost of providing programs and services to students requiring supports in addition to those a classroom teacher supplies. (See *Special Education Policy Manual*, Policy 1.3.)

Students with Sensory Impairments

Under the *Handicapped Persons Education Act* (1975), the responsibility for identifying students with sensory impairments remains with the parents, who must notify the superintendent of schools. Superintendents should report to the regional education officer, as promptly as possible, the names of children who are in need of special instruction in public school because of a sensory impairment.

School board staff will arrange for an educational assessment of the student. The supervisor of student services will notify the Atlantic Provinces Special Education Authority (APSEA). For practical reasons, notification should go directly to the appropriate resource centre: the APSEA Resource Centre for the Visually Impaired or the APSEA Resource Centre for the Hearing Handicapped.

Supplementary Documents

Speech and Language Services: A Special Education Handbook (No. 38, 1983)
Special Education Policy Manual (1996)
Moving to Inclusion (1995) (see ALR under physical education)
Handbook for the Transportation of Students with Special Needs (1996)
Challenge for Excellence: Enrichment and Gifted Education Resource Guide (1999)
Teacher Assistant Guidelines (1998)
Supporting Student Success: Resource Programming and Services (2002)

Elementary Years: Grades Primary–6

Compulsory and Elective Program Components

To ensure consistency in educational opportunities for all children of the province, elementary schools must include, for all children in each year's program, language arts (listening, talking, reading, viewing, writing, and other ways of representing), mathematics, visual arts, health, physical education, music, science, and social studies.

In Acadian and Francophone schools, English must be offered beginning at grade 3. In English schools, core French must be offered beginning at grade 4. School boards may request approval to offer immersion programs in the second official language of the students after consulting with the Department of Education.

Where offered, Gaelic as a second language and Mi'kmaw as a second language may be introduced at grade 3.

Guidelines for Time Allotment

Ministerial Education Act Regulations require a minimum of 225 minutes of teaching per day for grades primary–2 and a minimum of 285 minutes for grades 3–6.

Principals and teachers are responsible for ensuring that a reasonable and productive balance of time exists among all subject areas to enable students to achieve designated curriculum outcomes. In each curriculum area, some outcomes and clusters of outcomes require discrete allotment of instructional time, while others may be integrated effectively with those of other subject areas. Integrated curriculum units reflect and illuminate connections among the outcomes in various subject areas.

Within this framework, principals are responsible for ensuring that time allotment for literacy and mathematics reflect the following requirements:

English Program

- for English language arts grades primary–2, a minimum of 90 minutes every day including *Active Reading Hour*
- for English language arts grade 3, a minimum of 115 minutes every day including *Active Reading Hour*
- for English language arts grades 4–6, a minimum of 90 minutes every day
- in grades 4–6, one or more blocks of *Learn to Read/Read to Learn Time* in English language arts and other subject areas totalling 60 minutes every day
- for mathematics grades primary–2, a minimum of 45 minutes every day including 5 minutes of Mental Math and Estimation in grades 1 and 2
- for mathematics grades 3–6, a minimum of 60 minutes every day including 5 minutes of Mental Math and Estimation

Immersion Program

- for French language arts grades primary–2, a minimum of 90 minutes every day including *L'heure de lecture active*
- for French language arts grade 3, a minimum of 75–80 minutes every day including *L'heure de lecture active*
- for English language arts grades 3–6, a minimum of 45–50 minutes every day
- for French language arts grades 4–6, a minimum of 75–80 minutes every day
- in grades 4–6, one or more blocks of time for *Apprendre à lire/Lire pour apprendre* in language arts and other subject areas totalling 60 minutes every day
- for mathematics grades primary–2, a minimum of 45 minutes every day including 5 minutes of Mental Math and Estimation in grades 1 and 2
- for mathematics grades 3–6, a minimum of 60 minutes every day including 5 minutes of Mental Math and Estimation

The Learning Environment

With the principles of learning in mind, teachers and administrators must plan a supportive environment for their students, interacting with them and guiding, facilitating, directing, and extending their learning.

Features of this supportive learning environment include the following:

- a learning culture oriented to high expectations, academic achievement, and success for all students
- opportunities for all students to develop confidence and self-worth
- instructional contexts that reflect the principles of learning and the developmental nature of children's learning
- respect for racial, ethnic, social, and cultural diversity and sensitivity to differences in gender, ability, values, and lifestyles
- effective use of school space and appropriate use of time to accommodate a variety of learning situations, such as whole class discussions, small group work, learning centres, individual work, and construction and movement activities
- a safe and healthy environment
- access to information technology, art materials, science and mathematics tools and manipulatives, construction materials, and craft materials

Essential Learning Experiences

Because children are in many ways alike and in many ways different, schools must take the responsibility of providing varied learning experiences to meet the children's diverse needs and to allow for choices within a structured framework. Program decisions must reflect a knowledge of how children learn and how the characteristics of learners change with children's growth and development.

Throughout the early elementary years, structured or focussed play is an important way in which children learn. Such structured play supports, sustains, extends, enhances, and enriches the child's learning. Through play, children have valuable opportunities to interact with others in a variety of social settings and to use language meaningfully as they explore, plan, imagine, experiment, manipulate, dramatize, negotiate rules, and pose and solve problems.

In later elementary years, children are growing in their ability to deal with abstract concepts, to generalize from their experiences, to learn from texts, and to work independently for longer periods of time. Play, the active engagement with events, ideas, materials, and other people, continues to provide important learning experiences but takes on new forms.

The following is a list of experiences considered essential to the elementary program. The forms of these experiences will vary as the children move through the elementary years, but the intent of each experience persists throughout.

On a daily basis, all students should

- explore, experiment, and make approximations
- make choices and reflect upon the decisions they make
- work in a variety of groups
- use many different communication modes, e.g., writing, drama, sculpture, dance, talk, and music
- learn through play and games
- manipulate a wide variety of materials across all subject areas
- reflect on and articulate what and how they have learned
- describe their efforts and accomplishments

The First Year in School

The first year of public school education guides children through the transition from home to school and provides a foundation for independent, lifelong learning. What and how children learn in their first year in school will have a major impact on successful learning experiences in school, on their personal development, and on their future participation in society. The primary program should

- nurture children as individuals with diverse needs and from diverse backgrounds
- extend children's preschool learning
- foster each child's intellectual, artistic, cultural, social, emotional, and physical development
- provide experiences and challenges with early literacy and early mathematics
- promote a positive attitude toward learning
- ensure a confident and successful start in school learning

Since each child has a unique rate of development and needs and abilities that are different from those of other children, the program must be developmentally appropriate for each child. Such developmentally appropriate learning activities and

materials would involve children, for example, in using structured and self-initiated play to learn.

The primary program offers learners adequate opportunity for both unstructured and structured play. At play, children are often highly motivated: they concentrate, persevere, and make decisions. In an activity-centred environment, children play with each other and with a wide range of carefully selected materials. An effective program invites spontaneous, constructive, and imaginative play.

Children coming to their first year in school bring a rich variety of learning experiences. They have been learning in a number of environments: in their homes, in preschool programs, in day-care centres, and in community activities. Their early childhood years have been characterized by rapid and intense learning. These young children thrive on relevant, challenging experiences. By offering interrelated experiences, the primary program invites children to learn about themselves and about the physical and social world. The program invites children to explore ideas, relationships, and knowledge through language, the arts, technology, movement, and play.

The primary program must recognize and be responsive to each child's prior knowledge, skills, attitudes, learning pace, personal traits, interests, and preferred learning style. Learning activities must be flexible enough to be adapted to meet individual as well as group needs, interests, and developmental levels. It is crucial that the range of experiences in the primary program meet children's varying needs and provide both support and challenge for all learners.

Primary Registration and Preschool Orientation

The Department of Education recommends that all children entering school for the first time in the primary grade be part of a planned program of registration and preschool orientation in the school they will be attending.

The grade primary teachers, parents, and school administrators should all play major roles in this activity.

Registration

To enter school, children must be five years old on or before October 1. Proof of the child's age is required for registration. An update of health records may take place at this time. Parents will be expected to complete appropriate school district forms.

Orientation

The purpose of preschool orientation is to help the children begin the transition between the home and the school so they may develop confidence in their personal value and begin to acquire a positive attitude toward school. Preschool orientation for the children might include taking a tour of the school, meeting school personnel, and participating with the primary teacher and other children in exploratory activities, such as playing in an unstructured context, cutting, pasting, building with blocks and boxes, painting, playing with puppets, acting out roles, viewing picture books, telling stories, or listening to a story read by the teacher.

For the parents, preschool orientation should provide an opportunity to communicate with school personnel. Parents should be invited to inform teachers and administrators about their children, to express their hopes and concerns for future schooling, and to ask questions. Specific information on special learning or medical needs should be brought to the staff's attention.

Preschool orientation should be planned to cause the least disruption to the instruction of the current primary classes.

Screening should be limited to the physical assessment of such areas as vision and hearing. It should not include readiness testing or testing for levels of cognitive development—teachers will have continuous opportunities to gain a knowledge of the emotional, social, physical, and intellectual needs of each child by observing him/her daily in the classroom and schoolyard. They can then base their program planning on their daily observations.

Reading Recovery™

School boards offer Reading Recovery as an early intervention (and prevention) program in the English and French language for students who are struggling in the area of reading and writing.

Reading Recovery is an intensive early intervention program designed to assist children in the first grade who are having difficulty learning to read and write. Children who are identified as achieving in the lowest 20% of their class on measures of reading and writing meet individually with a specially trained teacher for 30 minutes each day for an average of 12–16 weeks. The goal is for these children to develop effective reading and writing strategies at a level that is equal to or above the average level in their class.

Reading Recovery is an integral component of the Active Young Readers comprehensive approach to literacy, as we know that even with strong classroom practices, some children will require intensive instructional intervention and support in order to succeed. Teachers and teacher leaders in the program are required to have a strong background in literacy and must participate in intensive and ongoing training in the development and teaching of reading and writing.

Junior High/Middle Years: Grades 7–9

Compulsory and Elective Program Components

Each school board is required to provide in grades 7 to 9 inclusive, in each school under its jurisdiction, instruction in the prescribed courses in English, French, health/personal development and relationships, science, mathematics, social studies, physical education, and two of technology education, family studies, or arts education.

Each school is also required to provide programming and services for students with special needs.

Grade 7

The following subjects are compulsory:

French (or Mi'kmaw or Gaelic)
Language Arts
Mathematics
Science
Social Studies
Health/Personal Development and Relationships
Physical Education

In addition, students will take at least one of these electives:

Art
Family Studies
Technology Education
Music

Grade 8

The following subjects are compulsory:

French (or Mi'kmaw or Gaelic)
Language Arts
Mathematics
Science
Social Studies
Personal Development and Relationships
Physical Education

In addition, students will take at least one of these electives:

Art
Family Studies
Technology Education
Music

Grade 9

The following subjects are compulsory:

French (or Mi'kmaw or Gaelic)
Language Arts
Mathematics
Science
Social Studies
Personal Development and Relationships
Physical Education

In addition, students will take at least one of these electives:

Art
Family Studies
Music
Technology Education

Exploratory Options

Exploratory options (sometimes called mini-courses) may be provided to extend the curriculum and provide enrichment opportunities for young adolescents. Exploratory options may be designed as a component of compulsory or elective courses but may not replace program requirements noted above.

Exploratory options should contribute to the students' achievement of specific curriculum outcomes in one or more subject areas and should reflect the developmental needs of the young adolescent.

Exploratories may be offered for short periods of time during the year.

The Learning Environment

The junior high school environment should be designed to support the unique physical, intellectual, emotional, and social changes that characterize adolescence. Teachers and administrators must plan a positive environment for all learners, one that supports adolescent growth and socialization.

Features of a supportive environment at the junior high level include

- transition planning to and from junior high
- a learning culture oriented to high expectations, academic achievement, and success for all students
- opportunities for all students to develop confidence and a sense of self-worth
- a climate where experimentation, initiative, and risk taking in learning are valued and errors are viewed as opportunities for learning and teaching
- effective use of school space and time to accommodate a variety of learning situations
- instructional contexts that reflect an understanding of adolescents' developmental growth, of differences and commonalities in that growth, and of students' diverse concerns, emotions, interests, values, and motivation
- collaborative and co-operative learning contexts that invite social interaction
- flexibility in classroom organization and methods of instruction and assessment to accommodate individual learning styles
- organizational structures to promote a sense of community
- respect for racial, ethnic, social, and cultural diversity and sensitivity to differences in gender, ability, values, and lifestyles
- recognition of and respect for adolescent cultures
- opportunities for students to integrate and interpret their society and cultures within the school environment
- a secure and healthy environment where students are safe from physical and psychological harassment
- an environment that upholds the rights of each student and requires students to respect the rights of others
- models of democratic approaches to problem solving
- support systems for students who are encountering difficulty

Essential Learning Experiences

Schools have a responsibility to provide a range of experiences to meet the diverse learning needs of junior high students. Program decisions must reflect a knowledge of

- the principles of learning
- curriculum outcomes
- ways to construct appropriate learning experiences that enable students to achieve those outcomes
- the diversity of adolescent developmental patterns
- the diversity of students' abilities, interests, and maturity
- the interaction among teaching styles, instructional strategies, and learning styles

The junior high program must provide opportunities for students to

- access a range of resources, including technology, as a tool for learning
- strong connections between the school and home and students
- develop and use strategies for organizing and planning their learning
- gain greater independence by taking increasing responsibility for their own learning
- become increasingly independent users of learning resources to meet self-directed goals and needs
- engage in learning experiences that include both hands-on activities and more abstract ones
- become aware of and use opportunities for learning that exist outside the school
- enhance their understanding of how various areas of learning are interrelated
- engage in diverse interactions with adults and their peers in curriculum-based contexts that foster the development of interpersonal skills and social maturation

Students should have multiple opportunities to

- meet the expected learning outcomes
- explore rich and stimulating ideas
- engage their emotions, imaginations, and intellects
- engage actively in a variety of purposeful and meaningful learning experiences
- articulate their own learning needs
- work independently and use self-directed learning approaches
- learn with and from one another in a variety of groups
- use language across the curriculum to facilitate learning and to develop their literacy skills
- relate new learning to their prior knowledge and experiences
- make interdisciplinary connections
- make choices within a structured framework and reflect upon the appropriateness of those choices
- develop a work ethic and further understanding of career opportunities and requirements
- build self-esteem in meaningful ways
- explore multiple pathways to learning as they work toward achieving the expected learning outcomes
- reflect on what and how they have learned

Guidelines for Time Allotments

It is the school's responsibility to design schedules appropriate for all students. Principals are responsible for monitoring schedules to ensure an appropriate and productive balance of instructional time among the subject areas.

School schedules and time allotments for each course should allow for

- a focus on student learning and achievement of expected learning outcomes
- the learning needs of individual students
- opportunities for meaningful integration of curricula
- the particular needs of the school community

The schedule for grades 7–9 should provide teachers and students with blocks of uninterrupted instructional time long enough to engage students in active and interactive learning and to provide students with every possible opportunity to be successful.

Literacy and mathematics have been identified as curriculum priorities, and the schedule should provide sufficient time and opportunity each day for learning experiences focussed on prescribed curriculum outcomes for mathematics and language arts. These are important considerations in examining scheduling options and designing interdisciplinary units and integrated instruction.

Beginning in September 2004, 60 minutes every day will become a *minimum* requirement in grade 7 and grade 8 for instructional time allotted to mathematics and to English language arts in the English program. Beginning in September 2004, 60 minutes every day will become a *minimum* requirement for instructional time allotted in grade 7 and grade 8 to mathematics and to French language arts in the immersion program.

The learning outcomes framework for curriculum allows principals and teachers flexibility in allotting time for the effective delivery of the junior high program. In designing class timetables and teachers' schedules, principals and teachers might consider ways to

- ensure that the program provides opportunities for all students to achieve curriculum outcomes specific to each subject area
- facilitate integrated, interdisciplinary program organization based on the natural affinities among subject areas and the connections among the expected learning outcomes of junior high courses
- provide class periods of unequal time in a flexibly scheduled day, allowing students extended blocks of time to pursue learning opportunities and expand learning experiences
- provide additional time in courses when it is needed to enable students to achieve expected outcomes
- facilitate collaborative planning and co-ordination of instruction to meet students' needs and make optimal use of teacher expertise

The manipulation of instructional variables, such as time, classroom organization, teaching techniques, and assessment strategies, may be necessary to enable students to meet or extend their learning beyond the expected learning outcomes. When manipulating instructional variables is not sufficient to address student needs in the context of the prescribed curriculum, an individual program plan (IPP) should be developed. An IPP may include any or all of the following:

- deletion of outcomes
- addition of new outcomes
- same general curriculum outcome but significantly different specific outcome level

For further information on adaptations and IPPs, refer to "Programming for Students with Special Needs" above.

See also *Current and Emerging Research on Successful Junior High Schools: The Middle Years* (September 1997).

Senior High Years: Grades 10–12

A High School Graduation Diploma is awarded to students who have successfully completed the required subjects and electives as described below. Each school should offer to all students patterns of courses appropriate to their individual needs. The counselling and teaching staffs should help each student select courses that meet the entry requirements of the post-secondary education or employment choice of the student and that help him/her develop personal interests and a broader range of abilities.

Courses at the grade 10 level are designed to provide all learners with access to a strong foundation of common educational experiences. These courses engage students in a variety of groupings and interactions as contexts for learning, and offer a range of experiences which provide both challenge and support. To prepare students for a range of post-secondary destinations, grade 11 and grade 12 programs include course offerings that are increasingly specialized; as such, these grades are referred to as the specialization years.

Courses are identified by course title, grade level (10, 11, or 12); credit value (one credit or ½ credit); and credit type (academic, advanced, graduation, or open). A number of new courses have a modular design: learning modules, each involving 25–30 hours of scheduled time, may be grouped as a full credit or a half-credit.

The Learning Environment

A supportive, structured learning environment in senior high is

- challenging, engaging, and relevant
- participatory, interactive, and collaborative
- inclusive
- personalized, safe, and positive
- responsive to students' diverse learning styles
- open to experimentation and analysis

The environment should promote

- active learning throughout the school
- lifelong learning
- core beliefs and values
- respect and caring among staff, between staff and students, and among students
- a strong sense of community
- teamwork, collaborative planning, and shared decision making
- responsibility and student involvement in decision making at the classroom and school levels
- worthwhile student-initiated activities
- peer support systems

- open and diversified co-curricular and extra-curricular activities
- full participation in the life and work of the school by the entire learning community
- strong and productive communication and relationships with students' families and with community agencies and organizations as partners in the students' education
- values and practices for active, healthy living
- respect for the natural environment

Essential Learning Experiences

Schools have a responsibility to provide a range of experiences to meet the diverse learning needs of senior high students. The senior high program must provide opportunities for students to

- think critically and engage in disciplined inquiry
- develop as self-directed learners
- develop the generic skills and attitudes that are transferable to the work world
- make connections between their learning in school and a variety of career options
- experience success that represents solid achievement and genuine accomplishment
- complete substantial and meaningful academic work
- generate solutions to genuine problems

Students should have multiple opportunities to

- engage in authentic and relevant learning situations that have enduring value beyond the classroom
- interact in environments that affirm and promote diversity
- make and reflect on connections across the curriculum
- connect their learning to life outside the school
- develop and learn through their multiple intelligences and preferred learning styles
- use technology in a variety of ways
- use visual tools as pathways to learning and as avenues for representing knowledge
- assess their own learning
- reflect on and articulate what and how they have learned
- work in a variety of grouping arrangements
- make informed decisions
- demonstrate their understanding in a variety of ways

Guidelines for Time Allotments

Scheduling for grades10–12 must provide opportunity for a minimum of 110 hours instructional time per credit and a minimum of 55 hours per half-credit.

Time to Learn Strategy: Instructional Time and Semestering (2002) includes recommendations related to allotment of instructional time and to scheduling practices. It is recommended that boards and their schools work toward consistency in semestering/partial semestering practices with the goal of consistency by 2004–05. This recommendation should be regarded as a policy directive for implementation in September 2004. In planning for implementation, boards and their schools should consider organizational models designed to

- provide opportunities each semester for all senior high students to earn credits toward graduation
- offer year-long course options in some subject areas, for example, English language arts, French language arts, or mathematics, to meet students' learning needs
- provide additional instructional time to meet the needs of students who require increased support in literacy and/or mathematics

The instructional program for grades 10–12 should include, for each course, direction and support for home study to make provision for school days lost because of storms.

High School Credits

Definition of a Credit

A credit is awarded in recognition of the successful completion of an approved course that would normally be completed in a minimum of 110 hours of scheduled time.

In courses defined through curriculum outcomes statements, students are expected to have demonstrated achievement of the outcomes at an acceptable level of proficiency.

Credit Types

Each course is categorized as one of the following credit types:

Academic. Academic courses are designed for students who expect to enter college, university, or other post-secondary institutions.

Advanced. Advanced courses are designed to meet the needs of students who have demonstrated an exceptional degree of academic ability or achievement.

Graduation. Graduation courses are designed for students who wish to earn a graduation diploma with a view to proceeding to employment or some selected area of post-secondary study.

Open. Although none of the open courses is designed to meet the specific entrance requirements of any post-secondary institution, individual courses may meet entrance requirements of some institutions.

Credits for a Graduation Diploma

NOTE: Individual Program Plans (IPPs) approved by the school board for students with special needs and locally developed courses approved by the department are recognized as credit courses and count towards a High School Graduation Diploma.

Although the minimum number of credits required for graduation is 18, it is highly recommended that schools develop schedules that allow students to complete 20, 21, or even 24 credits. Schedules should be designed to meet student needs, interests, and abilities.

Students registering in grade 10 for the first time in September 2003 will require a minimum of 18 credits to graduate. No more than seven of the 18 credits may be for grade 10 courses, and at least five must be for grade 12 courses. The following are compulsory credits for graduation:

Language, Communication, and Expression

< 3 English language arts, one at each grade level, or for students in Acadian or Francophone schools, 3 French language arts, one at each grade level
< 1 fine arts: art, dance, drama, or music

Science, Mathematics, and Technology

< 2 mathematics
< 2 science: one from biology, chemistry, Science 10, or physics, and one other approved science course
< 2 others from mathematics, science, and/or technology: eligible technology courses include Communications Technology 11 and 12; Construction Technology 10; Computer Related Studies 12; Data Processing 12; Design 11; Electrotechnologies 11; Energy, Power, and Transportation 11; Film and Video Production 12; Exploring Technology 10; Production Technology 11 and 12; Word/Information Processing 12; and Word/Information Technology 12.

Personal Development and Society

< ½ credit Career and Life Management
< ½ credit Physically Active Lifestyles
< 1 Canadian History: Canadian History 11; Acadian History 11; African Canadian Studies 11; Gaelic Studies 11, when completed; and Mi'kmaq Studies 10 will be eligible credits to meet this new graduation requirement
< 1 global studies: Global Geography or Global History

Within the 18 course requirements for a graduation diploma, in most cases, no student may receive credit for two courses in the same specific subject area at the same grade level. There are a few exceptions: these include co-op courses, African Heritage Literature, Canadian Literature, Global Geography, Global History, and technology-related courses.

Beginning with the 2004 Nova Scotia High School Graduation Diploma, students enrolled in the Correspondence Studies Program or school board adult high school programs who are earning credits for the Nova Scotia High School Graduation Diploma will require a minimum of 18 credits to graduate. No more than seven of the 18 credits may be for grade 10 courses, and at least five must be for grade 12 courses. Compulsory credits for the 2004 Nova Scotia High School Graduation

Diploma will be those listed above. These requirements will apply to any student who wishes to earn the 2004 Nova Scotia High School Graduation Diploma, regardless of the year in which the student registered in grade 10 for the first time.

Prerequisites for Courses and Programs

Certain courses normally require the successful completion of the previous year's course before the next year's work begins; however, prerequisites may sometimes be modified. For example, a school staff member, in consultation with the student and parents, may decide that a student who has not successfully completed a course is nevertheless capable of doing the following year's work. In such a situation, the student may enrol in the following year's course in that discipline. Credit, however, will not be given for the first course until it is successfully completed.

It is imperative that the school schedule accommodate students who need to take a first-year course or part of a first-year course while taking second-year courses. Similar provisions should be made for combinations of second- and third-year courses.

The following table lists high school credit courses for 2003–2004 with their grade level and credit type.

High School Credit Courses: 2003–2004

Courses	Grade Level	Credit Type	Grade Level	Credit Type	Grade Level	Credit Type
Arts Education						
1. Art	10	acad	11	acad	12	acad
2. Canadian Music Studies	—	—	11	acad	—	—
3. Cultural Industries	—	—	11	acad	—	—
4. Dance	—	—	11	acad	—	—
5. Drama	10	acad	11	acad	—	—
6. Design	—	—	11	acad	—	—
7. Film and Video Production	—	—	—	—	12	acad
8. Music	10	acad	11	acad	12	acad
Business Education						
1. Accounting	—	—	11	open	12	open
2. Business Communications	—	—	—	—	12	grad
3. Business Mathematics	—	—	11	grad	—	—
4. Business Management	—	—	—	—	12	acad
5. Business Management	—	—	—	—	12	open
6. Business Personnel Development	—	—	—	—	12	open
7. Consumer Education	10	open	—	—	—	—
8. Data Processing	—	—	—	—	12	open
9. Keyboarding	10	open	11	open	12	open
10. Law	—	—	—	—	12	acad
11. Word/Information Processing	—	—	—	—	12	open
12. Word/Information Technology	—	—	—	—	12	open
English Language Arts						
1. African Heritage Literature	—	—	—	—	12	acad
2. English	10	acad	11	acad	12	acad
3. English/Communications	—	—	11	grad	12	grad
4. Canadian Literature	—	—	—	—	12	acad
5. Technical Reading and Writing (½ credit)	—	—	11	acad	—	—
Entrepreneurship						
1. Entrepreneurship	—	—	—	—	12	acad
Family Studies						
1. Canadian Families	—	—	—	—	12	open
2. Child Studies (½ credit)	10	open	—	—	—	—
3. Clothing and Textiles (½ credit)	10	open	—	—	12	open
4. Consumer Studies (½ credit)	10	open	—	—	—	—

Courses	Grade Level	Credit Type	Grade Level	Credit Type	Grade Level	Credit Type
Family Studies *(continued)*						
5. Child Studies	—	—	11	open	—	—
6. Family Studies	10	open	—	—	12	open
7. Food and Nutrition (½ credit)	10	open	—	—	12	open
8. Housing (½ credit)	—	—	—	—	12	open
French Second Language						
1. Français—immersion	10	acad	11	acad	12	acad
2. French—core	10	acad	11	acad	12	acad
3. French—extended core	10	acad	11	acad	12	acad
Gaelic						
1. Gaelic	10	acad	11	acad	12	acad
Mathematics						
1. Mathematics	10	acad	11	acad	12	acad
2. Mathematics Plus	10	acad	—	—	—	—
3. Mathematics Foundations	10	grad	11	grad	12	grad
4. Mathematics Foundations Plus	10	grad	—	—	—	—
5. Pre-Calculus Mathematics	—	—	—	—	12	adv
6. Advanced Mathematics	—	—	11	adv	12	adv
Other Languages						
1. German	10	acad	11	acad	12	acad
2. Latin	10	acad	11	acad	12	acad
3. Spanish	10	acad	11	acad	12	acad
Personal Development and Career Education						
1. Career and Life Management (½ credit)	—	—	11	open	—	—
2. Life/Work Transitions	10	open	—	—	—	—
3. Physically Active Lifestyles (½ credit)	—	—	11	open	—	—
4. Tourism	—	—	11	acad		
5. Workplace Health and Safety (½ credit)	—	—	11	open	—	—
Physical Education						
1. Physical Education	10	open	11	open	12	open
Sciences						
1. Agriculture/Agrifood	—	—	11	acad	—	—
2. Biology	—	—	11	acad	12	acad
3. Advanced Biology	—	—	11	adv	12	adv
4. Chemistry	—	—	11	acad	12	acad

Courses	Grade Level	Credit Type	Grade Level	Credit Type	Grade Level	Credit Type
5. Advanced Chemistry	—	—	11	adv	12	adv
Sciences *(continued)*						
6. Food Science	—	—	—	—	12	acad
7. Geology	—	—	—	—	12	acad
8. Oceans	—	—	11	acad	—	—
9. Physics	—	—	11	acad	12	acad
10. Advanced Physics	—	—	11	adv	12	adv
11. Science	10	acad	—	—	—	—
Social Studies						
1. African Canadian Studies	—	—	11	acad	—	—
2. Economics	—	—	11	acad	12	acad
3. Gaelic Studies	—	—	11	acad	—	—
4. Geography	10	acad	11	acad	12	acad
5. Geography of Asia	10	acad	—	—	—	—
6. Geography of Canada	—	—	11	grad	—	—
7. Global Geography	—	—	—	—	12	acad
8. Global History	—	—	—	—	12	acad
9. History	10	acad	11	acad	—	—
10. Canadian History	—	—	11	acad	—	—
11. Law	—	—	—	—	12	acad
12. Mi'kmaq Studies	10	acad	—	—	—	—
13. Political Science	—	—	—	—	12	acad
14. Sociology	—	—	—	—	12	open
Technology-Related Education						
1. Communications Technology	—	—	11	open	12	open
2. Computer-Related Studies	—	—	—	—	12	acad
3. Construction Technology	10	open	—	—	—	—
4. Design	—	—	11	acad	—	—
5. Electrotechnologies	—	—	11	acad	—	—
6. Energy, Power, and Transportation	—	—	11	open	—	—
7. Film and Video Production	—	—	—	—	12	acad
8. Exploring Technology	10	open	—	—	—	—
9. Production Technology	—	—	11	open	12	open

NOTE: Many of the courses listed above are available in French for the immersion program.

French First Language Programs

Acadian and French Language Services

The Acadian and French Language Services Branch is responsible for French first language programs and for French second language programs.

French First Language Division

The French First Language Division of the Acadian and French Language Services Branch is responsible for the development of French first language programs. These programs are designed to meet specific needs of students who are entitled to be schooled in their mother tongue, in accordance to Section 23 of the Canadian Charter of Rights and Freedoms.

French First Language programs are described in detail in *Programme des écoles publiques*, the French version of *Public School Programs*.

French Second Language Programs

The French Second Language Division of the Acadian and French Language Services Branch is responsible for the development of French second language programs. The aim of second language teaching is to develop the learner's ability to communicate effectively in French.

Nova Scotia offers four French second language programs:

- Core French (grades 4–12)
- Extended Core French (grades 7–12), following Core French grades 4–6
- Early French Immersion (primary–grade 12)
- Late French Immersion (grades 7–12), following Core French grades 4–6

Core French, extended core French, and French Immersion programs are designed to accommodate all students.

French Second Language Programs are designed to enable all students to

- communicate effectively in French for a variety of purposes through a variety of ways and media
- demonstrate a better understanding of their own and others' cultural heritage and identity with particular emphasis on "French-speaking communities"
- demonstrate preparedness for further learning in French
- work, study, and solve problems both independently and in groups
- locate, evaluate, adapt, create, and share information using a variety of sources and technologies

To help students achieve these goals, all teaching in French second language programs should be in French.

Core French

In the core French program, French is studied and taught in regularly scheduled instructional periods. School boards in Nova Scotia must offer core French classes from grades 4 to 12. This program is compulsory for students in grades 4 to 9. Where offered, Mi'kmaq or Gaelic may fulfil the requirement.

Extended Core French

School boards may offer an extended core French program to those students in Anglophone schools who wish to develop a greater degree of competence in French. Extended core French begins in grade 7 and continues to grade 12. Students in this program take a French language arts course and one other subject (usually a social studies course) taught in French. The French language arts course is designed to support the language needs of students in the second subject area taught in French. The curriculum of this second course parallels that of the course taught in the English program.

French Immersion

School boards may offer a French immersion program. The immersion program is an alternate approach to learning French, Canada's second official language. The goal of the program is to help students develop a high degree of proficiency in

French. Subjects taught in French parallel those offered in the English program.

Early French Immersion

Early French immersion begins in grade primary and continues to grade 12. Students in this program receive a minimum of 80 percent instruction in French at the elementary level and approximately 70 percent instruction in French at the junior high level.

Late French Immersion

Late French immersion begins in grade 7 and continues to grade 12. In each year of junior high, students take five courses in which the language of instruction is French. This constitutes approximately 70 percent of instruction in French.

French Immersion Certificate

To be eligible for the French immersion certificate, students must have been enrolled in an early or late French immersion program before entering high school. At the high school level, students must

- successfully complete the French immersion language arts course in grades 10, 11, and 12
- successfully complete, each year, a minimum of two courses in which the language of instruction is French (excluding core French)
- successfully complete a total of nine courses in which the language of instruction is French (this represents 50 percent of the number of credits required for graduation)

The courses offered in the early and late French immersion programs are described in section J of this handbook and in *Programme des écoles publiques*, the French language version of the handbook.

Community-Based Education

Community-based education programs encourage the expansion of learning opportunities for elementary, junior high, and senior high school students by bringing the community into the school and by placing students in the community as part of their studies. Community-based education

- assists students in making informed decisions about their education and career plans and in acquiring relevant knowledge and skills required in today's society
- improves students' understanding of employment requirements and the links between the knowledge, skills, and attitudes they are acquiring in school and their future plans
- assists students to develop generic employability skills including academic, personal management, and teamwork skills; specific career, occupation, and job skills; and labour market knowledge and understanding

There are two categories of community-based education:

- *Co-operative Education*: one-half credit courses or full credit courses requiring long-term community/workplace placements
- *Short-term Placements*: community/workplace learning experiences, typically of 5–25 hours, designed as an integral part of a public school program or approved locally developed course.

Co-operative Education

Co-operative education courses may be offered at grades 10, 11, and 12 either as full credits or half-credits. Co-operative education courses may be developed as academic, advanced (grades 11 and 12 only), open, or graduation type credit courses. Each of these may be counted as elective credits to fulfil graduation requirements. A co-operative education course has the status of a locally developed course and must be approved by the principal or school board staff according to school board policy.

Co-operative education courses have three components:

- an in-school learning module requiring a minimum of 25 hours
- a community-based component requiring a minimum of 50 hours for a half-credit course and a minimum of 100 hours for a full credit course
- reflective learning activities

A student must be at least 16 years of age to undertake the community-based component of a co-operative education course. Students may undertake the community-based component of a co-operative education course during or after school hours, at weekends, and/or during vacations, in accordance with board and school policies. Students may not be paid for any part of the community-based component of a course which takes place during regular school hours.

Short-Term Placements

Short-term work/community placements are typically 5–25 hours in length and are designed to complement and extend students' in-school learning and help students to make connections between the curriculum and the world beyond the school. Such learning opportunities assist students in educational and career planning and in making successful transitions through education and into their first career.

Short-term placements are designed as an integral part of a course. A number of different models for work/community placements have been developed. These include the following:

- a job shadowing experience which typically involves students in observing or 'shadowing' someone in a work situation; job shadowing is of very short duration, typically 5 hours, or at most, a few days spread over the school year
- work/community placements, typically 10–25 hours, which offer students opportunities to apply or extend knowledge and skills learned in the course of which the work/community placement is a component

Job Shadowing

Job shadowing can be a part of a student's program at the junior and senior high levels and at the elementary level if, in the opinion of the school, the student could benefit from the experience. Job shadowing requires the written permission of the student's parent/guardian and must be conducted during regular school hours.

Work/Community Placements

Work/community placements (10–25 hours) require students to be 16 years of age unless they are under the supervision of the teacher on site during the placement. Work/community placements require the written permission of the student's parent/guardian and must be conducted during regular school hours. Work/community placements are to be connected to the learning outcomes of a specific course.

Comprehensive Guidance and Counselling

The Comprehensive Guidance and Counselling Program is a vital component of a comprehensive school system. It is designed as a total school program with defined outcomes and benefits for all students. The program activities and services are developmental in nature and form an integral part of the educational experience for students from grades primary to 12.

The program provides direction by helping students acquire knowledge, attitudes, strategies, and skills in the four program domains:

- personal—to understand and appreciate oneself
- social—to relate effectively to others
- educational—to develop appropriate educational plans
- career—to develop life and career plans

The program includes both curriculum and service components in four key areas:

- guidance curriculum—structured classroom and group activities within the program domains
- life/career planning—activities that help students to plan, monitor, and manage their learning and to develop plans for their career development
- professional services—counselling, consultation, and co-ordination activities that meet the immediate needs and concerns of students
- program management—activities and strategies that establish, maintain, and enhance the overall program

The program has four key structural cornerstones that provide support to ensure that program goals and strategies aimed at addressing specific student needs at the school level are consistent with provincial guidelines. Each school that offers the program is required to have the following structural cornerstones in place:

- a program advisory committee—assists in the design, implementation, and evaluation of the program
- a needs assessment process—data gathered at the school level from students, teachers, and community to assist in developing the priorities and goals to address local student needs
- a program evaluation process—designed to determine success of program goals and to provide for future revision and direction
- a professionally qualified counsellor—mandatory for full program implementation as the counsellor's professional expertise is required to deliver specific program components

Elementary (Primary–Grade 6)

At the elementary school level, the guidance and counselling program is especially concerned with assisting students to develop self-awareness and to relate effectively to others. The program helps students adjust to the school environment and deal with personal and social issues. By making students aware of life and career planning, the program helps students develop an initial understanding of the meaning of work, of the types of work being done, and roles in their homes, school, and community. Guidance counsellors in the program help students cope with crises in their lives and are significantly involved with community and social service agencies.

Junior High (Grades 7–9)

At the junior high school level, the comprehensive guidance and counselling program continues to help students in their exploration of self as they develop an understanding of their own interests, aptitudes, abilities, values, and attitudes. Guidance counsellors at this level use a variety of individual and group techniques to assist student development in personal, social, educational, and career development domains.

A major responsibility of the qualified guidance counsellor in the guidance and counselling program at the junior high level is crisis counselling. This often includes close co-operation with community and social service agencies. The guidance and counselling program also supports career planning and education as it helps students to

- develop skills in decision making and problem solving
- achieve more effective levels of personal planning and decision making within the context of their abilities, interests, personalities, and educational options
- appreciate the range of options open to them, as well as the education and training they will need in the future workplace
- understand the changing roles of men and women
- profit fully from the instructional activities of the school
- develop study skills

Senior High (Grades 10–12)

At the senior high level, the guidance and counselling program extends all aspects of the junior high program and prepares students for post-secondary education, training, and employment. Through instruction and both group and individual guidance and counselling, students receive further practice and assistance in applying decision-making skills to personal situations, educational choices, and tentative occupational choices related to their interests, aptitudes, and values. In addition, qualified guidance counsellors help students cope with crises in their lives and work closely with community and social service agencies.

For further information see *Comprehensive Guidance and Counselling* (2002)

Integration of Information Technologies within School Programs

Vision for the Integration of Information Technologies Within the Nova Scotia Public School System. It is available on-line at <lrt.EDnet.ns.ca>.

This document provides the foundation for the integration of information technology within the public school system. This vision is concerned with enabling students to achieve essential graduation learnings and curriculum outcomes through the selection and integration of appropriate information technologies within the public school program. Courses such as Technology Education, Business Education and Computer-Related Studies will provide additional learning experiences that some learners may select so they can explore specific technologies more fully.

Program of Learning Assessment for Nova Scotia

The purpose of the Program of Learning Assessment for Nova Scotia (PLANS) is to provide information from student assessments in elementary, junior high, and senior high schools that support teaching and learning and to report on the performance of the provincial education system.

The program comprises three components:

- assessments in mathematics, language arts, and the sciences at various levels
- teacher involvement in the development, administration, and marking of each assessment
- reporting of results for system accountability and improvement

In October 2003, the new Elementary Literacy Assessment will be administered to students in grade 6.

For grade 12, Nova Scotia Examinations (NSE) are administered each year in chemistry, language arts, mathematics, and physics. Mathematics examinations will be implemented beginning in January 2004. NSE are written at the end of January by students who are completing course work in the first semester and in June by students in second semester or full-year courses. Assessments at other grade levels, grade 5 and 8 mathematics and grade 6 English language arts, are administered in alternating years.

The schedule for NSE in grade 12 and assessments in elementary and junior high is distributed to schools each June preceding the new school year. The schedule, which can be found on the Department's Web site, provides the dates of all assessments conducted within the province.

Nova Scotia also participates in national and international assessments.

Further information and copies of the assessment schedule for 2003–2004 are available from

Testing and Evaluation Division
Department of Education
PO Box 578
Halifax NS B3J 2S9

Policies and Procedures

Policies and Procedures

Advanced Courses

Consistent with the philosophy of common educational experiences at the grade 10 level, and increased opportunities for specialization at grades 11 and 12, the public school program includes advanced course offerings at grades 11 and 12.

English public school programs currently include provincially developed grade 11 and grade 12 advanced courses in biology, chemistry, and physics. In collaboration with the other Atlantic provinces, the department is developing advanced courses in mathematics for grades 11 and 12. In addition, a second advanced mathematics course in grade 12 is being developed for students who will be studying calculus in college or university.

International Baccalaureate (IB) grade 11 and 12 courses are recognized as advanced courses and may be credited towards graduation requirements whether taken as part of a complete IB program or as discrete courses.

Provincially developed advanced courses and approved locally developed advanced courses are categorized as either (a) a course offered *instead of* the related public school program academic course or related approved locally developed academic course, or (b) a course offered *in addition to* related public school program courses and designed to extend student learning in a particular field of study.

Advanced courses are characterized by additional content and by curriculum outcomes different from those of related courses offered in that subject area as academic credits. Advanced courses offer expanded and extended learning outcomes in both the theoretical and applied aspects of the subject area. Advanced courses balance learning experiences in three required areas: in-depth treatment of selected topics, independent learning and reflection, and extended research projects/case studies and related activities.

Requests to offer locally developed grades 11 and 12 advanced courses must be submitted by February 28 in any year for approval of a course to be offered the following September and by September 30 for approval of a course to be offered from February of the following year.

Requests for approval of locally developed courses as advanced credits will be evaluated with reference to policy guidelines and to the framework provided by the principles of learning, the essential graduation learnings, and the general and specific curriculum outcomes of related public school programs and courses. Approval is also required for learning resources and teaching materials not included in the authorized lists to be used in locally developed and public school program advanced courses.

Advanced Courses Policy Guidelines are currently under review.

Assessment of Student Learning

Assessment is the systematic process of gathering information on student learning.

High quality assessments are essential to high quality education and have a well-established link to student performance. Effective assessment practices can have a powerful effect upon learning.

Assessment policies and procedures should support the curriculum, instructional practices, and assessment strategies described in current curriculum documents. Practices should reflect current knowledge about how students learn and be flexible enough to meet the diverse needs of learners.

Purposes of Assessments

The primary purpose of assessments is to provide information to improve student achievement and instructional programs, and to produce a basis for evaluation.

Assessments help students to reflect on how well they have learned, to redirect their efforts, and to set goals for their future learning. To promote learning, assessments should be used to help students to recognize their learning strengths and needs and to identify ways they can further develop as learners.

Assessments enhance teachers' insights and knowledge about their students' learning needs and styles. Teachers use information gathered through assessments to describe what students know, are able to do, and are working toward. They use this information to provide students with useful feedback on a regular, ongoing basis, guiding their efforts toward improvement.

Reflection on this information helps teachers to evaluate the effectiveness of their instructional approaches and to consider how they might adapt them to address learners' needs.

Evaluation is the process of analysing, reflecting upon, and summarizing assessment information and making judgments or decisions based upon the information gathered.

Teachers and administrators use evaluations to communicate with parents about student learning and with others who require information about levels of student performance in relation to expected curriculum outcomes.

Principles of Assessment and Evaluation

Recognizing that the best interests of the student are paramount, teachers and administrators should use the following principles as the basis of assessment policies, procedures, and practices.

< Assessment strategies and tasks should be appropriate for and compatible with the purpose and the context of the assessment.

< Students should be provided with sufficient opportunity to demonstrate the knowledge, skills, attitudes, or behaviours being assessed.

< Procedures for judging or scoring student performance should be appropriate for the assessment method used and be consistently applied and monitored.

< Procedures for summarizing and interpreting results should yield accurate and informative representations of a student's performance in relation to the curriculum outcomes for the reporting period.

< Assessment reports should be clear, accurate, and of practical value to the audience for whom they are intended.

These principles highlight the need for an assessment process that

< informs teaching and promotes learning
< is an integral and ongoing part of the learning process
< is clearly related to and consistent with designated curriculum outcomes
< involves multiple sources of information
< provides a variety of means for students to demonstrate their learning
< is fair and equitable to all students
< accommodates the needs of students who require an individual program plan

While assessments may be used for different purposes and audiences, all assessments must give each student optimal opportunity to demonstrate what he/she knows and can do.

Classroom Assessment

Classroom assessment provides information about students' progress in achieving expected learning outcomes, by focussing on the significant aspects of the learning that the student must demonstrate. Teachers determine the aspects of learning on which to focus the assessment and the most appropriate assessment strategies and tasks to use for that purpose.

The teacher's use of a broad range of assessment strategies and tasks affords students multiple opportunities and a variety of ways to demonstrate their knowledge, skills, and attitudes. Teachers may rely on a variety of sources for their assessments, including

- the teacher's anecdotal records and teacher journals or log books
- conferences with the student
- observations
- peer assessment
- pencil and paper procedures (quizzes, tests, examinations)
- performance assessments
- the student's self-assessment
- student journals or log books
- students' work samples

Students benefit when they clearly understand the expectations for their learning. When students are aware of the outcomes for which they are responsible and the criteria by which their work will be assessed or evaluated, they can make informed decisions about the most effective ways to demonstrate what they know, are able to do, and value.

Students also benefit from opportunities to negotiate assessment and evaluation procedures. It is important that students participate actively in the assessment and evaluation of their learning, developing their own criteria and learning to judge a range of qualities in their work. Students who are empowered to assess their own progress are more likely to perceive their learning as its own reward and to develop as lifelong learners.

Assessment tasks should be meaningful and engaging to learners and should provide the ongoing feedback students require to set goals for improving their learning and performance. Assessment strategies should also provide the feedback teachers need to determine areas requiring intervention and support and to tailor instruction to the individual learning needs and styles of their students.

Student performance should be evaluated according to specific criteria directly related to designated curriculum outcomes. Teachers bring to this process their insight, their knowledge about learning, and their experience with students.

Teachers have a special responsibility to ensure that assessment and evaluation procedures are clearly communicated to students and parents, to explain accurately what progress students are making in their learning, and to respond to student and parent inquiries about learning.

Challenge for Credit

The challenge for credit process allows the school to recognize that a student has already acquired the skills, knowledge, and attitudes that an existing course seeks to develop.

Challenge for credit may occur in fine arts, languages, mathematics, and physical education. Schools, through their boards, may apply to the department to offer challenge for credit on a pilot basis in subject areas other than those listed above.

Challenge for Credit Policy Guidelines are currently under review.

Community-Based Education Policy

Policy guidelines reflect recognition of the benefits of community-based education in enabling students to make effective transitions through education and into employment. Policy guidelines address two categories of community-based education:

- Co-operative Education: one-half credit courses or full credit courses requiring long-term community/workplace placements
- Short-term Placements: community/workplace learning experiences, typically of 5–25 hours, designed as an integral part of a public school program or approved locally developed course.

Community-Based Education Policy Guidelines provide Nova Scotia school boards, schools, and teachers with direction regarding co-operative education courses, work/community placements, and job shadowing.

Independent Study

Students may be granted one independent study credit in each of grades 11 and 12. Each of these credits may comprise two half-credits.

Independent study credits help promote individualized programming and allow students to initiate and develop courses tailored to their needs, abilities, and interests. Independent study credits are not intended to replicate any existing course in the public school program.

It is expected that schools will provide opportunities for students who wish to earn independent study credits. Independent study credits are an option for all students.

Internet Access and Use Policy

Students in public schools in Nova Scotia will select from a variety of information sources, including the Internet, to support and extend their learning. Using the Internet in schools will allow students to access local, national, and international electronic information sources and to collaborate with peers and experts to solve curriculum-related problems. Having access to information and collaborating with others are vital to intellectual inquiry in a democracy.

A detailed *Internet Access and Use Policy* is available on-line in both **English** and **French** at <ftp://ftp.EDnet.ns.ca/pub/educ/internet/>.

Locally Developed Courses

Approval is required to offer a course not included in the authorized programs named in this document, as well as for the use of related learning resources and teaching materials not included in the authorized lists.

Application forms for locally developed courses are available from English Program Services and must be returned to the English Program Services Division by **February 28** in any year for approval of a course to be offered the following September and by **September 30** for approval of a course to be offered from February of the following year.

The school board and consultants from the Department of Education will monitor and evaluate approved locally developed courses.

Policy for French Second Language Programs

The Department of Education, Acadian and French Language Services Branch, is responsible for providing leadership and orientation for French second language programs in Nova Scotia public schools.

Program Policy for French Second Language Programs provides Nova Scotia school boards, schools, and teachers with direction regarding the delivery of French second language programs. This document provides a description of the different French second language programs offered in the province as well as policies and guidelines regarding program implementation.

The policy is available through the Acadian and French Language Services Branch of the Department of Education.

Progress of Students

The Department of Education expects school boards to implement policies and practices that will encourage each student to make maximum progress according to his/her needs and abilities. From elementary through senior high school, instruction must be adapted to meet the varying rates and patterns of learning of all students and to satisfy students' individual needs.

The assessment of progress should be based on the department's programs and course descriptions and on statements of expected learning outcomes. Schools are responsible for creating the learning environments that will encourage students to make maximum progress. School boards should review their policies regularly to ensure that they reflect the department's expectations.

To help students develop to their fullest potential, school boards should ensure that procedures are in place for the continuous appraisal of each student's growth. These informal and formal appraisals should assess students' emotional, social, physical, and intellectual development. School boards are responsible for students' placement within schools. They should base their decisions on the assessments they have conducted.

A board's policies on assessment and on the placement of students may differ for elementary, junior, and senior high levels but should be applied consistently at each level across the region.

It is the right of students to be informed of their educational progress on a regular basis. It is the right of parents to be provided with the information they require to assess their children's progress and achievement in school. It is essential that parents be informed as soon as possible when their children are experiencing serious problems related to progress and achievement.

Teachers' reports on a student's progress, either oral or written, should focus on the individual student's development and achievement in comparison with the expected learning outcomes and program expectations.

It is of the utmost importance that reporting practices and procedures reflect expected learning outcomes of the program, and that from the report, students and parents can readily understand the individual's progress and achievement in relation to the provincial program or individualized program plan's expected learning outcomes.

Reporting Policy Framework (Pilot Draft, September 2002) is currently under review.

Implementation of the School's Communication Plan and the Teacher's Communication Plan described in *Reporting Policy Framework* will begin in September 2003.

Racial Equity Policy

Racial Equity Policy, March 2002, outlines the Department's commitment to promoting equity in the public school system. The policy supports the work done by school boards to develop their own racial equity policies and provides an overall provincial framework to ensure consistency.

Racial Equity Policy will be implemented in 2003–2004.

Roles and Responsibilities of Partners

Achieving the goals of the public school program requires schools and classrooms that focus on providing excellence in teaching and learning. Achieving this level of quality can best be done through teamwork where partners have meaningful involvement in decision making.

Success in schooling begins in and is sustained by the home. The family is the centre of learning. Parents are the child's first teachers.

If students are to be successful learners, parents must demonstrate their respect for education and value its worth. Students should know that their family, school, and community have high expectations of them and will work together to help them achieve these high expectations.

The *Education Act* (1996) specifies roles and responsibilities for students, parents, teachers, principals, superintendents, support staff, and school boards.

The *Act* also specifies the roles and responsibilities for school advisory councils. A School Advisory Council is a legally recognized body composed of the principal and representatives of teachers, support staff, students, parents, and community members who work together in an advisory capacity to increase the quality of education the school provides. The fundamental purpose of the School Council is to ensure that all students receive the best possible learning opportunities by engaging all

partners in an ongoing process of problem solving and shared decision making.

For further information, the following documents should be consulted:

Education Act (1996)
Establishing School Advisory Councils: New Roles and Responsibilities to Support Student Success (Revised 1996)
School Improvement Planning: Models and Approaches (1996)
Special Education Policy Manual (1996)

School Code of Conduct

The *School Code of Conduct* comprises principles, standards of behaviour, identification of disruptive behaviours, consequences of non-compliance and consequences specifically forbidden. Its purpose is to set the context for a safe and productive learning environment by outlining expected behaviour in safe and caring schools. It also provides a framework for the development and implementation of provincial board, and school level discipline policies in reference to guidelines, regulations under the *Education Act*, and safe schools initiatives. Reference is made to "school members" throughout this *Code*. "School members" include students and all adults whose roles or jobs place them in contact with students in school settings and school activities.

Policy Document

School Code of Conduct (2001)

Special Education Policy

Special education policies, regulations, guidelines, and procedures are outlined in the *Special Education Policy Manual*, 1996. This manual describes the principles, student services and supports, programs, and partnerships that collectively ensure a co-ordinated and consistent approach to program planning and service delivery. As part of the public school program in each school in their jurisdiction, school boards are required to provide programming and services for students with special needs and to give parents of students with special needs the opportunity to participate in the development of an individualized program for their children.

Student Records

Student records are personal information as defined by the *Freedom of Information and Protection of Privacy Act*. Section 27 of the *Act* outlines the conditions under which personal information may be disclosed. A student's record, however, has been made available by custom and past practice, to parents or guardians who should be offered an explanation of its significance.

The information may also be released to appropriate agencies with the consent of parents and/or students, when appropriate.

When a student changes school, his/her original cumulative record should be forwarded to the new school. The initiating school should keep copies of those documents until the receiving school acknowledges receipt of the originals.

Further information on student records is provided in *The Nova Scotia Student Cumulative Record Folder Completion Instructions*, Halifax, 1988, and the *Education Act*.

Resources and Services

Resources and Services

African Canadian Services

The African Canadian Services Division was established in 1996 and is responsible for co-ordinating and developing the Department of Education's response to the *Black Learners Advisory Committee's Report on Education*. The implementation of the report's recommendations focusses on elementary and secondary education, ensuring that curriculum programs and services in the public school system reflect the needs of Black learners. The African Canadian Services Division also provides advice and guidance to all other branches and divisions of the department regarding African Canadian education.

African Canadian education is defined in Section 3(a) of the *Education Act* as "the development of programs, resources, and learning materials that provide information about and promote understanding of African people and their history, heritage, culture, traditions, and contributions to society, recognizing their origins as Africans."

African Canadian Services, in co-operation with other Public School Branch divisions, plays a key role in ensuring that all students and teachers have the benefit of anti-racism education and information.

African Canadian Studies 11

African Canadian Studies 11 is an eligible credit to meet the Canadian history graduation requirement. While it is offered at the grade 11 level, the course is available to grade 10 and 12 students as well. Details of this course may be found in Section S of this handbook.

African Canadian Education

In accordance with the *Education Act*, Section 140 (a)(b), the Department of Education expects school boards to "provide and implement programs and policies promoting African-Canadian education; and include in learning materials information respecting the history, heritage, culture, traditions, and the contribution to society of African people."

Administrators, teachers, and support staff should foster sensitivity to African Nova Scotian students' emotional, psychological, physical, and learning needs. All administrators, teachers, and support staff should demonstrate high expectations of African Nova Scotian students, respect for their interests and cultural background, and sensitivity to their needs.

School boards have an obligation to communicate and enforce equity standards and, therefore, should develop and implement anti-racism policies.

Resource

BLAC Report on Education: Redressing Inequity—Empowering Black Learners (Vol. 1, 2 & 3, 1994)

Atlantic Provinces Special Education Authority (APSEA)

The Atlantic Provinces Special Education Authority (APSEA) provides educational services, programs, and opportunities for students who are blind, visually impaired, deaf, hard of hearing, and deafblind. While school boards are the direct educational service providers for all school-aged children, APSEA helps to meet the specific needs of students with sensory disabilities through assessment, direct instruction, consultation, and provision of adaptive equipment and technology.

Access to programs and services for school-aged children and youth designed to assist students in meeting outcomes is available through a referral by the school principal in conjunction with the program planning team.

Atlantic Satellite Network

Under the current licensing agreement between the Canadian Radio and Telecommunications Commission and the Atlantic Satellite Network, the Department of Education has access to up to 23 hours of broadcast time per week, most of which is used by post-secondary institutions throughout the Atlantic provinces. The Education Media Library (see below) also broadcasts classroom and professional development titles from the duplication collection. Copies of these titles may be ordered.

Centre provincial des ressources pédagogiques (CPRP)

The Centre provincial de ressources pédagogiques (CPRP) (Provincial Centre for Educational Resources) was founded in 1979 by Université Sainte-Anne in Pointe-de-l'Église to meet the needs of Acadian and Francophone teachers in Nova Scotia. It became affiliated with the Nova Scotia Department of Education in 1988.

The staff of the CPRP co-operate closely with the Nova Scotia Department of Education and the school districts to support instruction of French and in French throughout the Acadian and immersion school programs in the province.

Lending Library

The CPRP's holdings presently include more than 80 000 items in a wide variety of media: teachers' guides, slides, CD-ROMs, video cassettes, geographical maps, textbooks, exercise books, educational games, and kits. This educational material is available to all French first-language and immersion educators, and a catalogue of the CPRP holdings is distributed to all the Acadian and Francophone schools in the province, as well as to schools with immersion programs. Teachers can order by mail, by fax, by e-mail or by phone. Over the last five years, the CPRP has lent more than 250 000 documents to teachers in the province. The Internet address for the lending library is <http://cprp.EDnet.ns.ca>.

Teachers may order by e-mail at the following address: <cprppde@ustanne.ednet.ns.ca>.

Professional Development Services

CPRP staff members hold regular meetings with teachers and students to help them learn how to use the documents of the CPRP, develop themes, and lead in-service workshops.

CPRP staff also take part in Department of Education work groups responsible for reviewing Acadian school programs.

CPRP publishes a bimonthly newsletter entitled *Entre Nous*, which is distributed to teachers of Acadian, Francophone, and immersion programs in the province, as well as to school administrators and students in the education program at Université Sainte-Anne. The newsletter contains in-depth articles as well as information on the CPRP's activities and services.

Publication Services

The aim of the CPRP's Publication Services is to produce educational documents that meet the specific needs of the Department of Education's curriculum specialists/teaching staff. Priority is given to projects developed for new French programs; the Centre is thus able to produce specialized documents that are of immediate value to teachers.

The CPRP is located in the Centre Bernardin-Comeau of Université Sainte-Anne. Contact information is as follows:

CPRP
C.P. 160
Pointe-de-l'Église, N.-É. B0W 1M0
Telephone: (902) 769-9000
Fax: (902) 769-3398
E-mail: cprppde@ustanne.ednet.ns.ca
Web site: cprp.EDnet.ns.ca

Resource Centre for Acadian Preschool Programs

The Centre provincial de ressources préscolaires is based in the CPRP's main offices at Pointe-de-l'Église. The centre has a lending library of

educational resources for Acadian Preschool programs. Its lending library has over 4 500 documents, and its holdings may be consulted on the Web at <http://cprp.EDnet.ns.ca>.

The Centre provincial de ressources préscolaires pays the postage fees for returning the material to its offices. Contact information is as follows:

Centre provincial de ressources préscolaires
C.P. 160
Pointe-de-l'Église N.-É. B0W 1M0
Telephone: (902) 769-9000
Fax: (902) 769-3398
E-mail: cprppde@ustanne.ednet.ns.ca
Web site: cprp.EDnet.ns.ca

Correspondence Courses

Through the Correspondence Study Program, the Nova Scotia Department of Education offers people the opportunity to complete their secondary school education while learning at home. More than 2000 adults and school-age learners enrol each year in public school courses from grades 7–12, as well as in some non-public school courses.

Public school correspondence courses follow the curriculum prescribed for Nova Scotia schools and use textbooks and other resource materials from the *Authorized Learning Resources*. The course work is marked by certified teachers who understand the special needs and circumstances of students who study at home.

Registration is continuous in correspondence studies, and progress is self-paced. When a student successfully completes a course, a certificate is issued that can be credited towards junior or senior high school completion. Check regularly for updated information on available courses at <http://lrt.EDnet.ns.ca/corr_studies/courses.shtml>. It is not currently possible to obtain through the Correspondence Study Program all of the credits required for school completion.

Persons may enrol in a correspondence course if they

- live in Nova Scotia, are 16 or over, and are not attending school
- live in Nova Scotia, are under l6 years old, and are legally excused from attending school (in this case, the principal at the student's last school must sign the application form, giving his or her approval)
- are attending junior or senior high school (grades 7–12) and have the approval of their principal and if any of the following situations exist:
  - the course is not offered in their schools
  - there are timetable conflicts
  - they want to study subjects during the summer months, but the courses are not offered in the summer
  - the principal recommends, for some other reason, that they take the courses by correspondence
- are junior or senior high school students who previously attended school in Nova Scotia but are temporarily living out of the province or country (students living away from Canada should provide the name and address of a contact person in Nova Scotia)
- are adults who normally live in Nova Scotia, but who have been living out of the province or country for less than three years (applicants should provide the name and address of a contact person in Nova Scotia)
- are non-residents of Nova Scotia interested in taking a secondary school level course for personal interest or credit

For more information, write to

Correspondence Study Program
3770 Kempt Road
Halifax NS B3K 4X8
Telephone: (902) 424-4054
Fax: (902) 424-0666
E-mail: csp@gov.ns.ca
Web site: lrt.EDnet.ns.ca

Education Media Library

The Media Library at Learning Resources and Technology offers Nova Scotia educators free access to thousands of resources in video, audio and photographic formats. The searchable online catalogue is available at <http://lrt.EDnet.ns.ca>. We ship loan videos (return postage-paid) to

schools all over Nova Scotia; dubbing titles become a part of a school's collections.

Schools may arrange to borrow or obtain copies of resources from the Education Media Library collection by telephone, fax or e-mail. Contact information is as follows:

Education Media Library
Telephone: (902) 424-2440
Fax: (902) 424-0633
E-mail: mediacir@nshpl.library.ns.ca
Web site: lrt.EDnet.ns.ca

English as a Second Language (ESL)

Students who are not proficient in English often face a variety of language and cultural challenges. The department has developed *Guidelines for English as a Second Language (ESL)* programming and services. The guidelines assist Nova Scotia school boards in the development of policy and procedures that direct the delivery of programming and services to students whose first language is not English. The guidelines also provide a direction and a basis for consistency, quality, equity, and flexibility in the delivery of programming and services for ESL learners. Although ESL programming and services are primarily designed for new Canadians, they may also assist school boards in meeting the needs of other students.

Curriculum Document

Guidelines for English as a Second Language (ESL) (2002)

Learning Resources and Technology (LRT)

Learning Resources and Technology (LRT) is the centralized, educational technology facility of the Department of Education. LRT provides non-print curriculum materials and professional development resources that reflect the program goals and priorities of the Nova Scotia Department of Education.

Curriculum Units

LRT creates and evaluates a range of electronic, multimedia resources that are related to school curriculum or teachers' professional development. The LRT home page organizes, by broad subject areas, links to evaluated curriculum units and Web sites throughout the world. The list of resources constantly grows and changes, and LRT encourages teachers to recommend additional educational sites.

Production

The production section of LRT designs, develops, and produces video, audio, graphic, photographic, and multimedia materials that support the public school program and the programming and research needs of the Heritage and Culture Branch. Many LRT productions are listed in its Media Library collection.

Contact information for LRT resources is as follows:

General Inquiry
Telephone: (902) 424-2462
Fax: (902) 424-0633

Education Media Library
Telephone: (902) 424-2440

Technology Demonstration Centre
Telephone: (902) 424-2450
Web site: lrt.EDnet.ns.ca

Mi'kmaq Services

The Mi'kmaq Services Division within the Department of Education was established in 1997 in response to the recommendation of the Task Force on Mi'kmaq Education. The Task Force became the Council on Mi'kmaq Education (CME) in 1997 and continues to make recommendations to the Minister of Education addressing the needs of Mi'kmaq students in the public school system. The Mi'kmaq Services Division is responsible for providing the leadership, direction, and planning required to develop and implement the policies, procedures, programs and services that will ensure

Mi'kmaq Nova Scotians benefit from a fully supportive learning environment in the public schools.

The Mi'kmaq have been defined in the *Education Act* as "all first-nation people, whether living on or off a reserve." The *Education Act* defines Mi'kmaq education as "the development of programs, resources, and learning materials that provide information about, and promote understanding of the Mi'kmaq and their history, heritage, language, culture, traditions, and contributions to society and that recognize their origins as first-nations people."

The Department of Education recognizes that education must be attuned to the cultural and language needs of Mi'kmaw students. Through partnerships with parents and Mi'kmaq educational organizations, the department is committed to developing and delivering programs in Mi'kmaq heritage, history, language, and culture. Leadership for the development of Mi'kmaq courses continues to be shared by English Program Services and

Mi'kmaq Services with the Department of Education.

Mi'kmaq Studies 10

A Mi'kmaq Studies course has been developed for the grade 10 level as an option in Social Studies. This course will enable students to achieve a greater understanding of and respect for Mi'kmaq contributions to society. This course is an eligible credit for the Canadian history graduation requirement.

Details of this course may be found in Section S of this handbook.

Mi'kmaw Language 7

Mi'kmaw Language 7 provides an option for junior high students to fulfil the requirement of a second language. Mi'kmaw Language 7 is available for implementation in the public schools. Mi'kmaw Language 8 is in development.

Mi'kmaq Education

In accordance with the *Education Act*, Section 138 (a)(b), the Department of Education expects school boards to "provide and implement programs and policies promoting Mi'kmaq education; and include in learning materials information respecting the history, language heritage, culture, traditions, and the contribution to society of the Mi'kmaq."

The Mi'kmaq Services Division collaborates with Mi'kmaw Kina'matnewey Education and the Band Chiefs on educational initiatives and issues to improve the quality of education for on-reserve and off-reserve Mi'kmaw students. Mi'kmaq Services plays a key role in ensuring that all students and teachers have the benefit of anti-racism education and that equity standards in the workplace are being exercised.

Perform!

Perform! is a cost-shared program that gives schools an opportunity to bring professional choral, dance, and theatre artists into their schools. Its primary goal is to enhance learning by involving performers in the delivery of drama, music, and dance curricula. Through Perform! students and teachers will have opportunities to work with professional artists to explore and develop their performance skills and creativity. The program is a joint initiative of the Nova Scotia Drama League, Dance Nova Scotia, and the Nova Scotia Choral Federation, and is administered by the Drama League. For information on the performers available, booking, and costs, contact the Drama League in Halifax at (902) 425-3876 or by fax at (902) 422-0881.

For more information visit their Web site at <www.performns.ca>.

On-Line Periodical Database

Teachers and students in public schools in Nova Scotia have access to a rich on-line collection of periodicals that are relevant to the curriculum and for teacher professional development. Access from school is available without a password at <http://search.epnet.com>. Access from home

requires a password and ID that are unique to each education site.

Provision of Learning Resources

Learning resources are provided to schools through a credit allocation system. Credit allocation refers to the financial system for the purchase of learning resources by the Department of Education and/or school boards for use by students and teachers in the public schools of Nova Scotia. Learning resources include such items as textbooks, software, and manipulatives. A credit allocation is established yearly upon approval of Cabinet for each school board. It represents a dollar commitment for learning resources to support the curriculum, and the calculation is based on a per student amount and actual school board enrolments. There is no provision for the carry-over of credit allocation from one fiscal year to the next. The credit allocation is administered by the Nova Scotia Book Bureau.

Up to 50 percent of each school board's credit allocation will be targeted for direct purchase by the Department of Education.

The remaining 50 percent of the credit allocation for each school board can be accessed by individual schools/boards to make purchases of authorized learning resources in support of school board and/or school priorities. Authorized learning resources will be purchased from the School Book Bureau using the on-line ordering system. Both up-to-date printable catalogues in PDF format and a searchable database are available on-line at <https://w3apps.EDnet.ns.ca/nssbb>.

Up to 5 percent of the credit allocation for each board may be used to purchase learning resources outside of the *Authorized Learning Resources* list, at the discretion and authorization of the school principal. Authorization for the 5 percent allocation is made according to the criteria and guidelines specified by the Department for this purpose. Procedures for using the 5 percent credit allocation are detailed in *5% Credit Allocation: Policies and Procedures* available on-line at <https://w3apps.EDnet.ns.ca/nssbb> and at the Nova Scotia School Book Bureau.

Race Relations and Cross-Cultural Understanding

Within the Department of Education, the Student Services Division provides leadership in race relations, multicultural/multilinguistic education, anti-racist education, cross-cultural understanding, and human rights issues. The division meets its objectives by co-operating with other Department of Education staff, in particular, the African Canadian Services Division and the Mi'kmaq Services Division, and with external educational partners, such as school boards, universities, associations, other government agencies, and the general public.

The division is responsible for identifying and implementing policy, programs, and activities relating to race relations and recognition of cultural differences. In its broadest sense, race relations includes anti-racist education, cross-cultural understanding, multicultural education, and human rights. The division's responsibilities include providing input into and responding to programming, curriculum guides, support documents, and learning resources relating to race relations and cross-cultural understanding. Its responsibilities include initiating and presenting workshops and seminars for the Department of Education staff.

Supplementary Resources

Multicultural Education Resource Listing (Revised 1999)
Community Resource Listing (Revised 1999)

School Library Services

The school library introduces students to a wide range of print, non-print, and electronic learning resources. Using electronic information sources (e.g., databases, CD-ROM, the Internet) offers students the opportunity to develop technological competence while enhancing their print literacy and developing their critical thinking skills.

The teacher-librarian plans, teaches, and evaluates assignments co-operatively with other teachers to

combine information literacy with the school and classroom program. Library staff and teachers work collaboratively, using shared expertise to meet the defined educational goals of the school.

In addition to making valuable curriculum connections, school library staff work with outside agencies (e.g., other libraries) to promote resource sharing. Current information should reflect respect for all peoples, being free of gender, racial, and other biases. Ensuring that the collection is balanced and that it supports the curriculum and students' personal needs is the responsibility of the professional staff.

Student Services

The Student Services Division is responsible for creating and developing a framework for student services for the province of Nova Scotia, including setting its direction and establishing its vision, goals, and action plans. This framework includes providing direction and leadership to school boards on implementing and evaluating programs and services for students in the areas of special education (see Programming for Students with Special Needs in Section B), guidance and counselling, Mi'kmaq education, English as a Second Language, and multicultural education.

In addition, this division designs and delivers professional development programs for teachers and administrators from grades primary to 12.

Technology Demonstration Centre

The Technology Demonstration Centre at Learning Resources and Technology co-ordinates the evaluation of educational technology and software for Nova Scotian classroom use. In addition, the centre provides school boards with consultation and training services in using and applying educational technology. Before investing school funds, teachers and school board staff may reserve time in the Technology Demonstration Centre to evaluate hardware or software for its fit with their students' needs. Results of software evaluations are available at <lrt.EDnet.ns.ca>.

Contact information is as follows:

General Inquiry
Telephone: (902) 424-2462
Fax: (902) 424-0633

Technology Demonstration Centre
Telephone: (902) 424-2450
Web site: lrt.EDnet.ns.ca

Technology Recycling

With Nova Knowledge and other partners, the Technology Recycling Program (affiliated with the national Computers for Schools Initiative) helps learners of all ages by encouraging government, businesses, and individuals to donate software and other surplus information technology for use in schools and related institutions. Volunteers and computer technology students refurbish and test all donated equipment. The school boards distribute the refurbished equipment and software to schools.

Program and Course Descriptions

Arts Education

Arts education, a critical component of a balanced program of studies, is fundamental to the aesthetic, physical, emotional, intellectual, and social growth of all students. It provides unique ways of knowing, doing, living, and belonging in the global community and plays a key role in the development of creativity and imagination.

Foundation for the Atlantic Canada Arts Education Curriculum establishes a framework upon which future curricula in the arts (dance, drama, music, and visual arts) will be developed. It also provides a reference point for discussion when administrators and other leaders are planning arts programs in schools.

Dance

NOTE: See physical education for the dance curriculum for elementary and junior high programs.

Dance 11 (academic, 1 credit)

Course Code:
043003

Dance 11 is designed for all students, with or without previous formal dance training, and builds on student's experiences in dance throughout the physical education curriculum, grades primary to nine. It emphasizes creative movement as a form of communication and self-expression, as a unique way of learning about oneself and others. Learning experiences in this course offer students opportunities to explore a range of dance styles with more focussed work in a few genres; create and present dance sequences; respond critically to their own dance works and those of others; and make connections with dance in local and global contexts, both past and present. Students also have opportunities to examine the connections between dance and other arts disciplines. The course comprises four components: elements of movement, creation and composition, presentation and performance, and dance and society.

This course satisfies the fine arts credit requirement.

Drama

Elementary (Primary–Grade 6) and Junior High (Grades 7–9)

Drama-learning activities can be effectively infused throughout the elementary and junior high curriculum. Through drama experiences, students gain opportunities to increase their understanding of others, themselves, and the world around them; to increase their ability to construct and communicate meaning through language and movement; and to deepen their understanding of cultural and social traditions. Within the dramatic context, a wide variety of drama strategies can be used to explore themes, stretch thinking, solve problems, extend use of language, broaden frames of reference, deepen the understanding of self and others, and gain an understanding of dramatic forms.

Senior High (Grades 10–12)

Drama 10 (academic, 1 credit)

Course Code:
004159

Drama 10 is an introductory course in drama focussing on the personal, intellectual, and social growth of the student. Drama 10 provides a foundation for future course work in drama and theatre. Through extensive work in improvisation, in both small and large groups, students gain confidence as they explore and communicate ideas, experiences, and feelings in a range of dramatic forms, such as dramatic movement and mime, dramatization, choral speech, choric drama, group drama, and Readers Theatre.

Drama 10 comprises four components: foundation, movement, speech, and theatre. The foundation component, which focusses on building student confidence and trust and creating a supportive learning environment, introduces students to the

essential elements of movement and speech. Experiences in movement and speech are extended in the movement and speech components and combined in the exploration of the various dramatic forms.

Opportunities for students to share and present their work are provided throughout the course, just as aspects of theatre may be shared at various points in the course. The theatre component enables students to bring together all of their learning in drama and theatre by developing a theatre piece or script. The course engages students in "collective creation"—the development of original scripts by students through research, discussion, and improvisation.

This course satisfies the fine arts credit requirement.

Drama 11 (academic, 1 credit)

Course Code:
004167

Drama 11 builds on learning experiences provided in Drama 10 and focusses on the students' personal development. Beginning with foundation experiences to develop student confidence and capability, the course allows students to explore movement and speech and to combine these in a greater range of dramatic forms. Selected dramatic forms are explored in depth for presentation.

Drama 11 emphasizes the process of creating script and bringing script to production. Students will create original scripts or theatre pieces from other texts. They will also explore script, using improvisation and other dramatic forms both to understand the original text and to create new script for performance.

The course also explores the elements of theatre production and the skills required for presentation or performance. Students will make and incorporate artistic choices regarding design elements, particularly with regard to lighting and sound, stage movement and blocking, and costume. Available technology will be used to facilitate the creation and production of a theatre piece.

This course satisfies the fine arts credit requirement.

Music

The music education program is designed to provide a balanced, sequential, broad musical experience from primary through grade 12. The aim of the music program is to develop the student's aesthetic response, musical discrimination, and understanding of as many as possible of those diverse elements embodied in the term "music." At all grade levels, music activities should form an integral part of as many aspects of the total education program as possible.

Elementary (Primary–Grade 6)

The music program as outlined in *Music Primary–6,* makes specific and essential contributions to intellectual and aesthetic development, the education of feeling, the exploration of values, the development of physical and perceptual skills, and personal and social education.

All music classes should include a range of music-making activities, including opportunities for students to make their own music and to learn about and respond to the music of others. Experiential learning in music develops psychomotor, intellectual, and verbal abilities, as well as musical ability. This holistic learning process also fosters self-esteem and promotes respect for others.

Extensions to the classroom music program include opportunities for students to participate in choirs and instrumental ensembles, including band, strings and recorder groups. These activities provide performance opportunities that not only build musical skills, but provide the learner with experiences that illustrate the co-operative nature of musical ensembles.

Primary–Grade 4

The music program primary–grade 4 is outlined in the guide *Music—Primary to Four*. Music involves many of the senses simultaneously, through continuous and active participation. All music classes should contain opportunities for music making. The program should also provide students with ample opportunity to make their own music

and to learn about and respond to the music of others. Experiential learning in music develops psychomotor, intellectual, and verbal abilities, as well as musical ability. This holistic learning process also fosters self-esteem and promotes respect for others.

This program is particularly effective when the music teacher collaborates with other teaching staff. The involvement of community musicians also enhances the program.

Grades 5–6

There are no official guidelines at present for music at the Grade 5 and 6 levels. Teachers should refer to *Authorized Learning Resources*. The songs, activities, projects, and listening repertoire included in any of books 4, 5, or 6 of any currently listed series contain sufficient material to challenge most classes. The program offered to students should include opportunities for significant and sequential learning, providing a balance of components: creative/productive (making music through performance and composition), cultural/historical (learning about music), and critical/responsive (responding to music—both their own and that of others).

Junior High (Grades 7–9)

Music is an elective course at grades 7, 8, and 9. Music instruction should be given its own time slot during the regular school day. It should not conflict with other courses in the student's program.

The junior high school music program is sequential, developmental, and cumulative. Students will be able to perform, interpret, and create music through the study of the basic musical concepts of rhythm, melody, harmony, form, and expression. Details of all aspects of the program may be found in the guidelines *Junior High School Music* (1992).

The program involves the cognitive, psychomotor, and affective domains, the last being particularly important. The practical component of the music program helps students perform with accuracy, precision, understanding, and feeling; it encourages an awareness of aesthetic values through direct experience with high-quality music.

Senior High (Grades 10–12)

A draft curriculum guide, *Music 10–12*, was distributed to schools for their information in 2000. Implementation of new music curriculum at the grade 10 level, previously scheduled to commence in September 2001, has been postponed.

The high school music program comprises four courses: Music 10, Music 11, Canadian Music Studies 11, and Music 12.

The intent of the high school music program is to engage students in creative, expressive music-making processes, providing a firm foundation in skills, principles, and practices of music, and preparing students for lifelong learning in music.

All music courses include performance (either instrumental or vocal), theory/harmony, ear-training, and history (including contemporary styles). Opportunities to explore music composition, often with the use of computers, are also important. Details of courses for each grade level may be found in the *Senior High School Music* guides (1990).

Although all music courses are open to all students, it should be noted that certain skills—especially performance and perceptual skills—are sequential. The music teacher and/or the school administration, the student, and the student's parents/guardians should confer before the student enrols in a music course.

Music 10 (academic, 1 credit)

Course Code:
09004 (10)
009096 (Instr. Band 10)
009099 (Instr. Strings 10)
009102 (Vocal 10)

Music 10 comprises the following components:

Performance

- technical requirements (see *Senior High School Music*, 1990)
- solo and ensemble literature
- instrumental (band or strings) or choral performance

Theory
- rudiments
- all major scales, key signatures, treble and bass clefs, pentatonic scales
- musical terms and signs
- (optional) composition—melodic, employing pentatonic and major (diatonic) scales, usually one or two phrases of the question-and-answer type
- ear-training and dictation
- simple form—ab, aba, rondo

History
The emphasis is on the Classical and Baroque periods.

This course satisfies the fine arts credit requirement.

Music 11 (academic, 1 credit)

Course Code:
009005 (11)
009097 (Instr. Band 11)
009100 (Instr. Strings 11)
009103 (Vocal 11)

Music 11 comprises the following components:

Performance
- technical requirements (see *Senior High School Music*, 1990)
- solo and ensemble literature
- instrumental (band or strings) or choral performance

Theory
- review of grade 10 requirements
- rudiments
- melodic transposition
- overview of ecclesiastical modes
- orchestral score readings
- more extended composition, using more than two phrases and adding a second part
- rhythmic, intervallic, and melodic dictation, as in Grade 10
- form—fugue, sonata, theme, and variation

History

The emphasis is on the Romantic period.

This course satisfies the fine arts credit requirement.

Canadian Music Studies 11 (academic, 1 credit)

Course Code:
009072

Although Canadian Music Studies 11 is open to any high school student, those taking this course should have a working knowledge of music. Studies include work in four aspects—folk music, performance, composition and composers, and the music industry—and each of these will be examined in relation to both the music and history of Canada. Although designated as a grade 11 credit, the course may also be taken in grades 10 or 12.

This course satisfies the fine arts credit requirement.

Music 12 (academic, 1 credit)

Course Code:
009006 (12)
009098 (Instr. Band 12)
009101 (Instr. Strings 12)
009104 (Vocals 12)

Music 12 comprises the following components:

Performance
- technical requirements (see *Senior High School Music*, 1990)
- solo and ensemble literature
- instrumental (band or strings) or choral performance

Theory
- completion of work from previous years, plus continuing application of theoretical materials and processes, including a review of chords, triads, and inversions
- continued development of dictation skills
- study of forms particular to the Renaissance period

History
The emphasis is on music before 1600 and since 1900.

This course satisfies the fine arts credit requirement.

Visual Arts

Elementary (Primary–Grade 6)

Visual arts is part of the core program in grades primary to 6 inclusive. *Visual Arts Primary–6* (2000) provides guidelines for the visual arts curriculum described below. This curriculum provides opportunities for all students to make, look at, and reflect upon art as they gain understanding of new and magical worlds. The curriculum outlines a cumulative and sequential learning process designed to stimulate and develop creative and intuitive thought. While implementation of this curriculum guide is not yet a province-wide requirement, many elementary schools are using it to plan their visual arts program.

The elementary visual arts program provides students with opportunities to interact with sensitivity to and respect for their own art and that of others, to show appreciation for different ways of perceiving and knowing, and to recognize and critically respond to the role of the media in their lives and communities. Students work both independently and collaboratively to solve problems and respond to ideas and experiences by making and examining visual art. Activities might include painting, drawing, sculpting, and weaving, and exploring puppetry, multimedia, printmaking, textiles, and design. Drama, movement, and music may be incorporated as well.

The curriculum emphasizes the importance of learning about and through the arts. While opportunities are offered for ongoing, sequential instruction, the curriculum stresses the importance of infusing visual arts throughout the elementary school program. The importance of continuous, reflective conversation and collaborative assessment is also highlighted.

In grades primary to 3, students have opportunities to express personal feelings and ideas through exploration of a variety of materials and techniques and to develop their understanding of the rich variety of art forms that exists across time and culture. The curriculum invites learners to share thoughts, ideas, questions, and points of view as they examine the social, cultural, and historical influences on art work and artists in local and global contexts.

In grades 4 to 6, more sequential instruction in art-making techniques, technologies, materials and equipment enables students to build upon and apply their skills and understandings. Students investigate artists' styles, intentions, approaches, and lives as they refine and articulate their own responses through making and examining art.

Junior High (Grades 7–9)

Art is an elective course at grades 7, 8, and 9. At the junior high level, the art program follows a thematic approach to give structure and order to the various skills, techniques, and processes that are an integral part of any art curriculum. The program is divided into four major concept areas: self, social interaction, environment, and cultural heritage. The program should encompass each of the four concept areas at each grade level. Through this approach, teachers and students can develop a distinctive, yet interrelated understanding and awareness of the value of art in their daily lives.

A total junior high art program should adopt a sequential and developmental approach by which students investigate a range of art media. The media that may be incorporated into the junior high program are the following: drawing, painting, printmaking, photography, ceramics, textiles, sculpture, and architecture. The various media should be explored through the four concept areas, focussing on visual art as a unique and powerful means of both constructing personal meaning and communicating.

Senior High (Grades 10–12)

Foundation for the Atlantic Canada Arts Curriculum provides key-stage curriculum outcomes for use in planning the visual arts program. Revision of the senior high visual arts program and implementation of new visual arts curriculum at the grade 10 level have been postponed.

The aims of the high school art program include the development of perception and awareness; skill and confidence in creating, making, and presenting art;

and an understanding of art in the contexts of time, place, and community.

Art 10 (academic, 1 credit)

Course Code:
001004

Art 10 concentrates on developing basic art skills and an understanding of the core content of drawing/design, painting, sculpture, printmaking, and art history. Students also work in two of the following elective units: mixed media, pottery, photography, crafts, and fibre/textiles. To help students develop their understanding of concepts in art and to prepare them for future studies in art, drawing/design and art history should be related to every aspect of the year's work.

This course satisfies the fine arts credit requirement.

Art 11 (academic, 1 credit)

Course Code:
001005

Art 11 continues the concentration on drawing and design and art history (including contemporary art) and further develops skill and ability in the other core components of painting, printmaking, and sculpture. Increased time is suggested for the elective units listed in Art 10 to enable students to acquire greater understanding of the processes involved.

This course satisfies the compulsory fine arts credit requirement.

Art 12 (academic, 1 credit)

Course Code:
001006

In Art 12, the student should have the opportunity to do in-depth work in selected areas of the program. Specialization should be encouraged. Drawing/design and art history are required components, with one additional component to be chosen from painting, printmaking, **or** sculpture, and another additional component to be chosen from mixed media, pottery, photography, crafts, **or** fibre/textiles.

This course satisfies the compulsory fine arts credit requirement.

Other Arts Credit Courses

Cultural Industries 11 (academic, 1 credit or ½ credit)

Course Code:01055 (11)
001056 (11A)
001057 (11B)

The Cultural Industries 11 curriculum is designed to help students consider the ways they might apply the knowledge, skills, talents, and interests fostered by their learning in arts courses. To extend this learning, Cultural Industries 11 curriculum provides opportunities for students to deepen their understanding of the role of arts in their community and the economy. By exploring the arts and cultural community in Atlantic Canada, students are able to identify the opportunities that are offered by current trends in the cultural industries.

The term "cultural industries" refers to businesses involved in creating cultural products that express ideas or values, provide entertainment, or have a functional or decorative use. Their markets or audiences may be local, regional, or worldwide. People active in this sector include those involved in design, visual arts, live performance, film and video production, sound recording, production crafts, and publishing.

Canada's cultural industries represent a major portion of the Canadian economy and exert a profound influence on many aspects of Canadian life.

Cultural Industries 11 presents a unique opportunity to take learning beyond the classroom to include the community and workplace. Moreover, it offers students an entrepreneurial experience in the cultural industries.

Design 11 (academic, 1 credit or 1/2 credit)

Course Code:
327021 (11)
327016 (11A)
327017 (11B)

Design 11 may be offered as an arts course or as a technology-related course and is available as a full credit or half-credit course.

Design 11 involves students in using communications and information technologies to develop solutions to design problems and to conduct inquiries into design issues. Students work independently and as part of design teams to explore design in a range of practical contexts. Modules for this course include the following: Design Fundamentals; Communications Design; The Built Environment; Product Design; and Design Team or Independent Project.

Film and Video Production 12 (academic, 1 credit)

Course Code:
327023 (12)
327024 (12A)
327025 (12B)

Film and Video Production 12 involves students in the production of a film or video. Students work independently and as part of a production team to explore roles in the film industry, develop skills required in production roles, develop a critical awareness of historical and cultural aspects of film, and work through the process of producing a film or video from script development to final edit. Modules for this course include Fundamentals, Production Team Skills, Film Industry Disciplines and Careers, and Film Development and Production.

Students may work toward an arts credit or a technology credit in Film and Video Production 12.

Curriculum Documents

Foundation for the Atlantic Canada Arts Education Curriculum (2001)
Music Primary–6 (2002)
Junior High School Music (No. 124, 1992)
Music 10–12 (Draft, 2000)
Senior High School Music (Academic) (No. 115, 1990)
Senior High School Music (Instrumental) (No. 116, 1990)
Senior High School Music (Choral) (No. 117, 1990)
Canadian Music Studies (CMU 331) (1985)
Drama 10 and Drama 11 (1999)
Dance 11 (1999)
Design 11 (2000)
Cultural Industries 11 (2000)
Visual Arts Primary–6 (2000)
ArtsLinks: Active Young Readers and the Arts (2002)
Film and Video Production 12 (Implementation Draft, 2003)

Business Education

Business education has two strands: individual business courses and business sequences. Each has a distinct purpose. Individual business courses are designed to contribute to the education of all students, regardless of career plans, and business sequences are intended to prepare students for business and office occupations.

Schools that have business education departments may offer accounting, clerical, and stenography sequences as part of their high school program.

The accounting sequence prepares students for employment in accounting and related business occupations. Instruction develops a basic understanding of modern accounting procedures applicable to single proprietorships, partnerships, and corporations.

The clerical sequence prepares students for employment as clerk-typists, general office clerks, file clerks, office machine operators, receptionists, and other related occupations. Instruction includes computer technology, keyboarding, machine operation, record keeping, filing, clerical routines, and business techniques.

The stenographic sequence prepares students for employment in office occupations that require stenographic skills. In addition to developing proficiency in computer technology, keyboarding, shorthand, and transcription abilities, students should have an opportunity to develop skills in operating business machines and filing, and to learn business practices.

Senior High (Grades 10–12)

Accounting 11 (open, 1 credit)

Course Code:
002001

The aims of the high school accounting courses are as follows:

- to develop in students an understanding of accounting principles and concepts encountered in business and personal activities
- to provide a sound foundation for additional study
- to help students become acquainted with the principles, applications, and importance of data processing in accounting procedures

The following topics are covered in the introductory course: the accounting equation, business transactions, journalizing and posting, the processing of cash receipts and payments, financial statements, and the complete accounting cycle for a merchandising firm.

Accounting 12 (open, 1 credit)

Course Code:
002002

NOTE: Recommended Prerequisite: Accounting 11

This advanced accounting course deals with more complex transactions and financial statements. Topics include automated accounting systems, payroll accounting, cost accounting, budget accounting, taxation accounting, partnership accounting, corporation accounting, financial statement reporting, and analysis of corporate financial reports.

Business Communications 12 (graduation, 1 credit)

Course Code:
002036

NOTE: This course does not fulfil graduation requirements for a language arts credit.

Business Communications 12 develops effective reading, listening, speaking, and writing skills. Students will review the fundamentals of English usage, compose a variety of business letters and memoranda, and study current trends in business communication. Students may also advance their word processing skills.

Business Management 12 (academic, 1 credit; open, 1 credit)

Course Code:
002345 (academic)
002346 (open)

NOTE: Business Management 12 will be available for implementation in 2003–04. Business Management 12 is designed to be offered as either an academic credit (002345) or an open credit (002346). Business Management 12 will replace Business Organization and Management 12 (002005) which will **not** be offered after 2003–04.

Business Management 12 is designed to reflect change in economic and business environments and to develop students' analytical, problem solving, and communication skills through an understanding of how companies operate and are managed from both employer and employee perspectives. The course focusses on active, experiential learning and on developing the knowledge, skills, and attitudes required to identify opportunities and meet the challenges of the business environment.

The Business Management 12 curriculum is designed to meet diverse learning needs, to support individualized programs, and to promote self-directed learning. Teachers can adapt and modify learning activities and use a range of resources to accommodate different ability and interest levels. A wide variety of scenarios and management decisions emerge from study of business issues and of the manager's role in different companies.

Business Management 12 comprises four units: The Management Environment, Managing Business, Managing Change, and Independent Research.

By the end of the course, students will be expected to

- demonstrate a clear understanding of the business environment in which Canadian firms currently operate and identify the variables and complexities that affect managerial decision making
- demonstrate a clear understanding of the manager's role and recognize their own and others' management characteristics and potential
- demonstrate an understanding of the role of technology and its application to management
- demonstrate communication and interpersonal skills required in the modern work environment
- apply management principles to a wide range of enterprises and situations
- articulate the impact of social, economic and technological change on management attitudes and principles
- identify opportunities to apply management concepts and principles to personal and career situations
- investigate and report on an issue in the work environment

Business Organization and Management 12 (open, 1 credit)

Course Code:
002005

NOTE: This course will not be offered after 2003–2004.

The business organization and management course includes the structure of Canadian businesses; principles of management; the functions of marketing, personnel, production, advertising and finance; as well as an overview of current trends in Canadian business management. It presents an overview of the different facets of business organizations in Canada in a managerial context. Emphasis is placed on questions, projects, and case studies. Field trips and simulated management situations are an important part of the course. Students are introduced to the types of environment in which managers must operate.

Business Personnel Development 12 (open, 1 credit)

Course Code:
002008

This business personnel development course replaces the office procedures course. It has been updated to reflect the skills and attitudes needed in the changing work environment.

Business Personnel Development 12 is a compulsory course for grade 12 students in the business education program. It would also benefit other high school students who wish to familiarize themselves with the business environment.

Business personnel development is the key element in any business program for it integrates the learning from other business courses. The course includes modules on professional image development, technical and human resource development, and workplace environment and provides field experience simulations.

Consumer Education 10 (open, 1 credit)

Course Code:
002006

This course introduces students to consumer-related issues. Course content includes the following topics: sources of consumer protection, advertising and the consumer, principles of good buying, investments in housing, money management, and savings and investments.

Data Processing 12 (open, 1 credit)

Course Code:
002007

This course in computer data processing introduces students to the challenging, ever-expanding world of business computing.

The course addresses the three main activities of business data processing: capturing the input data, manipulating the data, and managing the output. Specific topics include the data processing cycle, hardware and software, business records management, and electronic communications.

Practice time will be provided for business applications related to the following areas: accounting, professional word processing, database management, and financial spreadsheet programs.

This course is recommended for any student who would find a course on business and financial computing of value and interest as part of his/her high school program. Data Processing 12 is an eligible technology course to meet graduation requirements.

Law 12 (academic, 1 credit)

Course Code:
012028

The Canadian law course is designed to provide students with a knowledge of law and its function in society and skills and attitudes that will enable students to understand the legal process. Course content includes the Canadian legal system, crimes and crime control, injuries and wrongs, human rights, property rights, promises and agreements, business relations, family relations, and courts and trials. The course may be considered as belonging to either business education or social studies and should be taught by the person best qualified to teach, and most interested in, law.

Business Mathematics 11 (graduation, 1 credit)

Course Code:
002074

NOTE: Recommended Prerequisite: Mathematics 10 or Mathematics Foundations 10

NOTE: This course does not fulfil mathematics credit requirements for graduation.

The business mathematics course reinforces mathematical concepts and skills by giving students experience in applying them to typical business situations.

Beginning with a review of fundamentals, the course emphasizes a problem-solving approach to such topics as budgeting, financial planning, banking and credit, employee compensation, merchandising transactions, investments, business report analysis, and managerial mathematics. This course stresses

the efficient use of the calculator and computer as tools for problem solving.

Keyboarding 10 (open, 1 credit)

Course Code:
002298

This keyboarding course introduces the student to the touch keyboarding method, with particular emphasis on correct techniques. It is an elective open to all business and non-business students interested in developing their keyboarding skills. In addition to covering the complete keyboard, the course includes drills on sentences, paragraphs, centring, tabulation, manuscripts, letters, and composition.

Keyboarding 11 (open, 1 credit)

Course Code:
002299

NOTE: Recommended Prerequisite: A minimum average of 35 words per minute (wpm) with five or fewer errors on at least 3 five-minute timed writings with a normal syllabic intensity.

The aim of this second course in keyboarding is to provide students with the opportunity to acquire an intermediate-level vocational skill. Students are required to

- demonstrate a refinement and development of the technique of keyboarding and a knowledge of machine operation
- demonstrate good quality production and efficient work habits in vocational keyboarding
- produce material with acceptable standards of speed and accuracy for the intermediate level. This keyboarding course may be used to help students acquire skills in word processing.

Keyboarding 12 (open, 1 credit)

Course Code:
002300

NOTE: Recommended Prerequisite: A minimum average of 45 wpm with five or fewer errors on at least 3 five-minute timed writings with a normal syllabic intensity.

The aim of the third course in keyboarding is to provide an entry-level marketable skill. A priority is developing competency in producing mailable word-processed document in accordance with industry standards and expectations.

Word/Information Processing 12 (open, 1 credit)

Course Code:
002095

Word/information processing is designed to help students become proficient users of automated word-processing equipment. Modules include keyboarding, formatting, office organization, orientation, word-processing concepts, skill development applications, decision making, and production.

Word/Information Technology 12 (open, 2 credits)

Course Code:
002070

Word/information processing can be offered at the grade 12 level as a one-credit elective business education course (Word/Information Processing 12, 002095) or as a two-credit course (Word/Information Technology 12, 002070) to meet the word/information processing program requirements. It is recommended that students entering either of these courses have completed one level of keyboarding.

Word/Information Processing 12 and Word/Information Technology 12 are eligible technology courses for graduation requirements.

One-Year Business Education Program

Students must have accumulated a minimum of 10 high school credits to enrol in the one-year business education program.

The one-year business education program offers two options addressing the technological innovations of the workplace—the Accounting Program and the Word/Information Processing Program. Students may choose one of the two.

The courses for each option are as follows:

Accounting Program

Business Communications
Business Mathematics
Business Personnel Development
Data Processing
Accounting (2 credits)

Word/Information Processing Program

Business Communications
Business Mathematics
Business Personnel Development
Accounting
Word/Information Technology (2 credits)

Curriculum Documents

Business Personnel Development/Academic 12 (No. 119, 1990)
Business Management 12 (Implementation Draft, 2003)

English Language Arts

One of the major aims of the schools of Nova Scotia is to produce graduates who are thinking, articulate, literate people. It is expected that graduates will be able to communicate effectively and confidently in personal and public contexts for a variety of purposes and through a variety of means and media and that they will be comfortable using language to explore and construct meaning.

Throughout their school career, students should expand and extend their repertoire of language strategies and skills for learning and for communication. While language experiences in all subject areas contribute to the multifaceted development of students as language users, the English language arts program, in particular, expands the communication potential of all students.

The program should provide a range of learning experiences engaging students in the purposeful use of language to

- think and learn
- communicate effectively and clearly with a range of audiences for a variety of purposes
- gain, manage, understand, and evaluate information
- explore, respond to, and appreciate the power of language and the contexts of its use

Students need not only to develop skills and strategies as language users but also to reflect on the learning process. The English language arts program, like other curricular areas, must provide abundant opportunities for students to learn *how* to learn. By being attentive to and talking and writing about their own learning strategies, students can develop a sense of themselves as flexible, resourceful learners and provide their teachers with valuable insights into their development and needs.

Speaking and Listening

Speaking and listening are essential for language development, for learning, for relating to others, and for effective participation in society. The English language arts program should develop students' understanding and effective use of oral language and enhance their capacity to express themselves in formal and informal situations, adapting style and response to audience and purpose.

It is important that students learn to

- use talk in small and large groups to explore, extend, clarify, and reflect on their thoughts, ideas, feelings, and experiences
- communicate information and ideas effectively and clearly
- interact with sensitivity and respect, considering the situation, audience, and purpose

Focussed small group talk is an essential element of English language arts classrooms. In balance with large group and individual learning experiences, the program emphasizes a variety of paired and small group activities in which students may practise and develop their language fluency.

In addition to promoting group interaction and collaborative learning experiences, the program must provide ample opportunities for students to develop an understanding of the structures and conventions of more formal speaking and listening contexts and to explore ways in which oral language varies according to situation.

Reading and Viewing

Reading and viewing graphic and visual messages are meaning-making processes. They include making sense of a range of representations including print, film, television, technological, and other texts. Reading print texts has always been an essential component of the English language arts program and of other disciplines and is becoming increasingly important in a complex, global, information-based, technical society.

It is important that students learn to
- use the various cueing systems (pragmatic, semantic, syntactic, and graphophonic) and a range of strategies to construct meaning
- read and view, with understanding, a range of literature, information, media, and visual texts
- interpret, select, and combine information using a variety of strategies, resources, and technologies
- respond personally and critically to a range of texts, applying their understanding of the relationships among language, form, purpose, and audience

Using Print Texts

To help students become better readers, learning experiences should reflect the belief that reading must be meaning-centred, interactive, practised, purposeful, modelled, and supported.

In addition to providing focussed instruction and explicit demonstration of reading strategies, teachers need to provide opportunities for students to think and talk about how they construct meaning as they read and to pay close attention to the strategies they use to do so. It is crucial that teachers provide opportunities for students to read widely and frequently so that they will achieve fluency.

A balanced reading program includes the following components at all levels:
- modelled reading
- reading aloud
- shared reading
- guided reading
- independent reading
- opportunities to read books and other materials for pleasure
- opportunities for personal response
- opportunities for critical response

The broad range of literature read in English language arts includes classic and contemporary texts in a variety of genres, including poetry, plays, novels, short stories, essays, biographies, and autobiographies. In addition to texts relevant to the students' own lives, the range of texts should offer perspectives that contrast with their own experiences and invite readers to reflect critically on alternative ways of knowing and being. While it is important that learners study some works in detail, a key goal of the reading program is that students enjoy literature and explore diverse works independently.

Using Information, Media, and Visual Texts

Students live in a culture increasingly dominated by images, both moving and static. The English language arts program has a significant role to play in helping students to select, assimilate, evaluate, and control the immense amount of information and the diverse messages produced in this culture. At all levels, the program must include experiences that enable students to interpret, evaluate, use, and create information, media, and visual texts and to become discerning and critical consumers of mass media and popular culture.

Graphic and visual messages exert a powerful influence in an increasingly high-tech society, and students need to learn how the form, style, and language of visual texts communicate and shape ideas and information. For this reason, the program includes experiences that help students to interpret visual texts, such as illustrations, charts, graphs, electronic displays, photographs, narrative and documentary films, and videos.

Writing and Other Ways of Representing

Writing is a complex developmental process involving a sophisticated set of skills that evolve slowly and unevenly throughout school. These skills are continually strengthened, refined, and extended through use and application. Teachers should enhance students' development as writers by structuring a wide variety of writing experiences and by providing encouragement.

It is important that students learn to

- < use writing and other ways of representing to explore, clarify, and reflect on their thoughts, feelings, experiences, and learning and to use their imagination
- < create texts collaboratively and independently, using a variety of forms for a range of audiences and purposes
- < use a range of strategies to develop effective writing and other ways of representing and to enhance their clarity, precision, and effectiveness

Using writing as a thinking tool is an important component of the language arts program and of other disciplines. It is important that teachers provide abundant opportunities for students to use expressive writing as well as transactional and poetic writing. Students should be provided opportunities to write daily.

Learning through Drama

Drama can be a powerful medium for language and personal growth and should be an integral part of the interactive language arts program. Teachers should use drama to enhance learning in a variety of ways that include the following:

- < as a collaborative social activity that allows students to explore ideas through improvisation and role-play
- < as a response to literature and to media texts
- < as a vehicle for involving students in decision making, problem solving, verbal interaction, mime, movement, and group dynamics
- < as a springboard for language exploration through role-play that allows learners to use language outside their normal range
- < as an opportunity for learners to try on roles to explore identities
- < as a way to explore voice and point of view by writing "in role"
- < as a springboard for written reflection in or out of role
- < as a medium for "out-loud" thought

Drama fosters language growth across the spectrum of experiencing, expressing, and performing. Improvised drama encourages learners to make discoveries using their own language; reading aloud can help learners make discoveries using the language of others. Interpreting or performing text through role play, movement, improvisation, shared reading, Readers Theatre, script writing for a specific medium and other forms of dramatization can enhance students' language growth and help them to acquire an understanding of self, of their relationship to others, and to the world of ideas.

Using Language across the Curriculum

Language is central to all learning; growth in language learning is facilitated by active involvement in experiences that are meaningful and purposeful. Thus language growth both fosters and is fostered by learning in other areas of the curriculum.

Elementary (Primary–Grade 6)

Through the elementary English language arts program, students become effective users of language for learning, for communication, and for enjoyment. The language arts program engages children in experiences that develop all the language processes: talking and listening, reading and viewing, writing, and representing in other ways. Always, the focus is on meaning.

The program is language-based, collaborative, and interactive. Through the various language processes, children develop their ability to refine their thinking and build their understanding of the world. Children need opportunities to use language for a variety of purposes: planning, speculating, predicting, organizing, storytelling, sequencing, interviewing, questioning, persuading, reporting, reasoning, criticizing, and evaluating.

Active Young Readers

Active Young Readers initiatives in grades primary–6 focus on the need to provide effective instruction, effective assessment, and effective intervention for all students in the classroom through concentrating on four components. They are

- Time
  - instructional time allotment for language arts
  - Active Reading Hour: Grades Primary–3
  - Learn to Read/Read to Learn Time: Grades 4–6
- Resources
  - learning resources for read-aloud, shared reading, guided reading, independent reading
  - resources for classroom assessment of reading development
  - professional resources
- Reading Recovery™

For more information on Active Young Readers P–6, see *Literacy Success, Active Young Readers, Primary–6, Background Paper*, May 2002.

For more information, visit the Active Young Readers Web site at <http://ayr.EDnet.ns.ca>.

Reading Recovery™

Reading Recovery is the best known and most-tested of several individual tutoring programs directed at intervening with children in grade 1 who are not learning to read at the desired rate.

—Ziegler, Suzanne, *Promoting Achievement in School: What Works*. (Toronto: Canadian Education Association, 1999)

Reading Recovery is an early intervention program designed to assist children in grade 1 who are struggling in reading and writing. Each student receives instruction on a one-to-one basis, 30 minutes per day for 12–16 weeks.

Evaluation data are collected on every child who participates. Data collected in Nova Scotia indicate that, on average, four out of five (check: three out of four) children who complete the program will leave Reading Recovery achieving in reading and writing at or above the level of their peers and will not require further intervention in this area. For the small number of students who do not make the accelerated progress needed to "catch up" to their peers, the intervention provides a wealth of information on the child's strengths and needs, and further support services and programming can be recommended.

Reading Recovery teachers receive intensive training from highly qualified and experienced teacher leaders over a year to develop the assessment and teaching strategies necessary to meet the learning needs of these students. In Reading Recovery, ongoing professional development is provided for all teachers and leaders to continue to improve teaching and learning.

As the second site in Canada to offer the program and the first to adapt the program to the French language, Nova Scotia is already a leader in Reading Recovery. Currently, Reading Recovery is available in about 55% of the province's elementary schools. The province's goal is have Reading Recovery available to each grade 1 child who requires the intervention by 2005.

Reading Recovery is an integral component of the Active Young Readers: Grades Primary–3 initiative.

Learning Experiences

The elementary English language arts program must provide abundant opportunities for learners to

- use language skills, processes, and knowledge for pursuing their own questions and for learning about topics that are useful and interesting to them
- use language to solve problems and articulate with issues that concern them
- use a range of print and non-print media to collect and convey information
- comprehend and analyse visual information and apply it to new situations
- pose questions as they read, listen, and view
- read, view, and create many different kinds of texts that draw on their imaginations
- select and use the appropriate set of language conventions for particular situations
- reflect upon how they learn and use language
- reflect on their growth as readers and writers

Speaking and Listening

A balanced language arts program provides children with abundant opportunities to develop oral language skills as they interact with their peers and engage in structured speaking activities within the classroom. By the end of grade six, students will be expected to engage in productive discussion, making thoughtful, constructive contributions, listening critically and respectfully to the contributions of others, asking appropriate questions for clarification, and defending their own ideas with supporting evidence.

Reading and Viewing

The language arts program provides children with experiences that enable them to see themselves as successful readers and to value reading. Children require access to texts that they can read easily and that reflect their interests and language as well as texts that challenge them to increase their fluency. Explicit reading instruction is essential in assisting children to develop a full range of reading strategies. A wide variety of visual texts is also essential, both as supports for print texts and as texts in their own right.

By the end of grade six, students are expected to select and be able to read texts appropriate to their interests and learning needs. They are expected to have achieved a degree of independence in the use and integration of the pragmatic, semantic, syntactic, and graphophonic cueing systems and to be able to use and reflect on a variety of strategies to construct meaning both in literary and information texts. They are expected to respond both personally and critically to texts, demonstrating an understanding of the conventions of a variety of print and media texts and genres, and applying a growing range of strategies to analyse and evaluate texts for their purposes.

Writing and Other Ways of Representing

It is important that children see themselves as writers from their very first experiences and that teachers view learners' attempts in writing as developmental. Because many concepts important for reading are effectively learned through writing, experiences in which learners explore writing should be planned early in primary. Over time, learners should demonstrate increasing fluency, refinement, control, and effectiveness, as well as increasing awareness of the conventions of written language. Children should learn to use writing as a thinking tool, as well as a means to communicate their ideas, and should have numerous opportunities to write every day so that their competence as writers can grow. As well, children need opportunities to use a variety of media, such as visual representations, drama, and dance to express thoughts or ideas and to convey information.

By the end of grade six, learners are expected to use a range of writing and presentation strategies in an increasing number of forms for a variety of purposes. In their production of written and media texts, they are expected to make informed choices in language that reflect their understanding of audience and purpose, enhance meaning, and achieve specific effects. Learners are expected to perform research writing tasks involving from three to five sources. They are expected to demonstrate a growing understanding of the conventions of written language and a commitment to bringing selected pieces of writing, as well as other representations, to final product.

Junior High (Grades 7–9)

The junior high program is language-based, collaborative, and interactive. The program is characterized by instruction that balances content and process with attention to developing students' knowledge, skills, and motivation.

Students' knowledge about language should be developed in the context of language in use, not through isolated exercises. The language arts program is an integrated program that treats skills as elements of processes and processes as elements of communication. The focus of the program is on enhancing students' communication capabilities. More than half of the time allotted to language arts should be spent on reading and writing activities.

The program should provide opportunities for all students to use communication, information retrieval, and information-processing technologies.

Students should also make optimal use of community and school resource centres/libraries and the variety of resources they offer.

It is important that language arts classrooms provide a wide variety of reading resources that address the interests and needs of learners at each grade level. Resources should be available to support developing readers and readers whose fluency is beyond the expectation for the grade.

The junior high program emphasizes
- < using talk as a tool for thinking and learning
- < writing, reading, and talking about writing and reading
- < using language within the context of drama
- < exploring visual images and ways in which written and spoken language combine with image in visual media
- < extending personal and critical responses to literature and media texts

Active Readers 7

The Active Readers 7 initiative began in 2002 and will expand into grade 8 in 2003–04 and into grade 9 in 2004–05. It builds on the strength of the Junior High School Network Project as well as Active Young Readers, Primary–6. This initiative calls for a whole school focus and the co-ordination of efforts across the curriculum to strengthen literacy skills in young adolescents. It comprises four key components:
- < Time
  - – instructional time allotment for language arts
  - – 33% of 60 minutes daily committed to reading instruction, reading, and reading-related activities
- < Resources
  - – learning resources for read-aloud, shared reading, guided reading, independent reading
  - – professional resources for teachers of English language arts, teachers of other subject areas, resource teachers, and administrators
- < Professional Development
  - – effective use of instructional time
  - – effective instructional practices
  - – effective classroom assessment
  - – effective classroom intervention
  - – development of school-wide support strategies
- < Support Strategy
  - – whole school focus through a mechanism such as school improvement planning

For more information on Active Readers 7, see *Literacy Success, Active Readers 7, Background Paper,* September 2002.

Learning Experiences

The junior high English language arts program
- < accommodates young adolescents' diverse needs and interests
- < provides multiple opportunities for students to use exploratory talk and writing
- < encourages increasingly sophisticated responses to reading and viewing experiences
- < extends students' appreciation of literature and media texts
- < develops students' awareness of their own language use and that of others in terms of its appropriateness to context, purpose, and audience
- < extends students' understanding of the structures and conventions of standard English
- < develops students' knowledge of terms to describe language and the way language functions in communicating meaning
- < develops students' critical awareness of the ways language can reflect bias and create or reinforce gender, ethnic, or cultural stereotyping
- < develops students' critical thinking, particularly in relation to reading and viewing

Study Skills and Strategies

Skills and strategies for writing and reading learned in the elementary grades are further developed in the junior high English language arts program. Teachers should help students understand that strategies learned for writing and reading one kind of text do not necessarily work with all texts; different purposes for writing and reading require different approaches.

Useful study skills and strategies include the following: clustering/webbing to stimulate thinking; predicting; skimming; highlighting; underlining;

note-making; rereading; paraphrasing; summarizing; looking for relationships; using graphic organizers; creating charts and semantic maps to organize information; using reference materials; using textual aids; using context clues; reading charts and diagrams; and locating, comprehending, and interpreting written information in manuals, tables, graphs, and schedules.

The English language arts program provides learners with explicit reading instruction to develop strategies for

- reading with a purpose
- drawing upon their prior knowledge, connecting new items to items in their store of prior knowledge, and reconsidering and organizing new information in relation to their own prior knowledge
- using the pragmatic, syntactic, semantic, and graphophonic cueing systems together
- monitoring comprehension, focussing on meaning and checking themselves to see if they are understanding
- adjusting their reading rate and approach, depending on purpose
- resolving a lack of understanding, for example, rereading a portion of the text, reading on to gather additional information, using phonics knowledge to sound out a problematic word, consulting another source
- generating questions before and during reading
- identifying important concepts and recording important information about those concepts
- considering information and ideas from alternative perspectives

Knowledge about Language and Its Use

In addition to providing opportunities for experimentation and exploration, the junior high English language arts program should include opportunities for learners to study language arts as a formal discipline, to talk about specific ways in which authors craft powerful pieces of writing, and to reflect upon how authors use language.

The program emphasizes language skills of a public and social nature taught not in isolation but in real communicative and problem-solving situations. These situations require students to use language to persuade, encourage, express appreciation, argue, compare, contrast, explain and defend judgments, debate, illustrate, resolve conflicts, describe, explain, report, extend an invitation, tell a story, summarize, generate questions, or clarify meaning.

Learning experiences should enhance students' understanding of and proficiency with standard usage, including awareness of dialects and registers; levels of usage and diction; appropriate word forms; effective sentence structure; and standard spelling, punctuation, and capitalization.

As students progress, focussed learning experiences in appropriate contexts should increasingly enable students to acquire a facility with language conventions and an awareness of appropriate use of these conventions. Teachers and individual students should identify particular language needs when they set learning goals.

The junior high English language arts program builds on the outcomes achieved by the end of grade six. By the end of grade nine, students are expected to articulate viewpoints in a convincing manner in speaking situations, providing appropriate support. They are expected to ask relevant questions calling for elaboration, clarification, or qualification as they examine the ideas posed by others and listen critically to assess the adequacy of the responses they receive. They are expected to participate constructively in conversation, small and whole group discussion and debate, using the appropriate strategies which contribute to effective talk, adapting their rate of speech, vocabulary, and sentence structure to the occasion. Learners at this stage are expected to recognize the effects of verbal and non-verbal features of language situations and show an understanding that oral language has different conventions in different situations and cultures. They are expected to demonstrate awareness of the power of spoken language to influence and manipulate and to reveal ideas, values, and attitudes.

By the end of grade nine, learners will, in addition, have read widely from a range of young adult literature, as well as literature from other parts of Canada and other countries. They are expected to use a variety of reading strategies as they read and view texts of increasing complexity. They are expected to show an understanding that information

texts serve specific purposes and be able to access independently those texts required to meet their learning needs. They are expected to respond to texts in increasingly sophisticated ways as they express and support their points of view and critically evaluate texts to assess their purpose, relevance, reliability, and to identify the values inherent in them.

By the end of grade nine, learners are also expected to use a range of strategies in writing and other ways of representing to reflect, to explore and extend their thinking, and to describe their learning processes and strategies. They are expected to demonstrate effective note-making strategies and to use a variety of information sources to construct new texts. Their choices of language, form, style, and content should show an awareness of audience and purpose. They are expected to demonstrate facility in using a variety of forms of writing and other ways of representing and to understand the processes used to create these products. Their final written products should show consistent use of the conventions of written language.

Senior High (Grades 10–12)

The senior high English language arts program builds on the competencies students attain in the program from primary to grade nine. The focus is on balanced instruction in the three strands: speaking and listening, reading and viewing, and writing and other ways of representing. The underlying ideas of the program for grades 10 to 12 centre on students' purposeful use of the language processes to

- think and learn
- communicate effectively and clearly with a range of audiences for a variety of purposes
- gain, manage, and evaluate information
- explore, respond to, and appreciate the power of language, literature, and other texts, and the contexts in which language is used

At all levels, the program should provide learners with abundant opportunities to explore a wide variety of literary texts and visual representations, as well as texts that reflect their interests. The English classroom should provide resources for developing readers as well as learners whose reading needs require sophisticated texts. Learners may require explicit instruction in reading strategies to assist them in accessing the more challenging literary and information texts of the senior high grades. Students should also be given abundant opportunities to write during English classes, using language to think and reflect on their learning as well as to create texts of their own.

By the end of grade 12, students' use of language should reflect sophistication, competence, and maturity.

All students must take English 10 in their first senior year, the foundation year of the senior high English language arts program. During their second year, students may take either English 11 or English/Communications 11, and in their final year, either English 12 or English/Communications 12. Students enrolled in English and English/Communications work toward achievement of the same grade level outcomes; however, the courses differ in pace, scope, emphases, and resources. It should be noted that the learning experiences offered to students enroled in English/Communications 11 should be flexible enough to allow them to enter English 12 if they choose.

English 10 (academic, 1 credit)

Course Code:
004084

English 10 offers learners an opportunity to consolidate their learning from their junior high years before they specialize in grade 11. The English 10 classroom offers abundant opportunities for students to read widely, to write frequently, to explore a wide range of print and visual texts, to work independently as well as collaboratively in small groups, and to design learning tasks that are of particular interest to them.

English 10 emphasizes proficiency in using oral language for a variety of purposes. Learning experiences include the following:

- exploratory and informal talk: conversation, focussed discussion with an identifiable purpose, such as brainstorming, speculating, and problem solving
- structured activities, including symposia, panels, and interviews

- dramatic representations: monologues, role playing, and improvisation
- performance of texts: individual and choral performance and Readers Theatre
- formal presentations: seminars, debates, public speaking, and reports
- focussed listening activities to interpret and evaluate ideas and information from a range of sources

The learning environment for English 10 must be flexible enough to accommodate a wide range in students' backgrounds, abilities, and interests. Within the confines of language, literature, and media texts, students are encouraged to explore topics of interest to them, with the goal of meeting their specific needs and interests and growing toward autonomy. This range of learning experiences enables students to reflect on their own learning strategies as they become independent learners.

English 11 and English 12 (academic, 1 credit each)

Course Code:
004162 (11)
004165 (12)

English 11 and English 12 are intended for students whose goals include post-secondary study. While these courses emphasize literary texts, students should be provided opportunities to select their own texts for independent study and small-group inquiry. In designing learning experiences, teachers should consider ways that students can extend their knowledge base, thinking processes, learning strategies, self-awareness, and insights. Students should also be provided opportunities to use the curriculum outcomes framework to design their own learning experiences that they may undertake individually or with learning partners.

Learning experiences should enable students to
- study and give detailed accounts of complex and sophisticated texts and issues
- be perceptive and analytical in making sophisticated adult judgements
- be critical readers of literary texts
- be critical viewers
- express themselves precisely when writing for often complex purposes
- be capable editors of their own and others' writing
- communicate confidently and effectively in the formal style and language required by some situations
- demonstrate control of language processes

The learning environment for English 11 and English 12 must provide opportunities for students to work in a variety of grouping arrangements, including both mixed-ability and similar-ability co-operative learning groups, interest groups, and partner learning.

English/Communications 11 and English/Communications 12 (graduation, 1 credit each)

Course Code:
004163 (11)
004164 (12)

English/Communications courses are intended for students who may need additional support in their development as readers, writers, and language users. English/Communications courses are intended to prepare students for lifelong learning by engaging them in practical and interesting learning experiences closely related to their lives and to the world they will experience as adults. These courses should be based on the interests and abilities of the students and provide support to meet their individual and diverse learning needs. At the same time, English/Communications courses should be flexible enough to allow learners to move to academic courses.

These courses focus on developing language skills necessary for the workplace. It is important that learners have abundant opportunities to engage in small group and whole class activities that help develop their speaking and listening skills. Learners must also have opportunities to read widely in their interest areas and to create both written and visual texts to enhance their reading and writing fluency.

English/Communications courses are intended to provide experiences that enable students to
- use language to reflect on their experiences
- think critically about the range of issues and ideas they encounter in texts

- understand the impact of media texts in their lives
- explore a range of print and visual texts
- meet the literacy demands of the outside world
- be aware of ways language can entertain, inform, and influence others
- adapt their language to suit their purposes
- extend their thinking through exploring a range of issues

The learning environment for English/ Communications courses requires a variety of grouping arrangements that allow optimum opportunities for meaningful teacher-student and student-student interaction.

Technical Reading and Writing 11 (academic, ½ credit)

Course Code:
004216

NOTE: Technical Reading and Writing is an elective half-credit course that consists of practical language activities. It does not fulfil the compulsory English language arts requirement.

Technical Reading and Writing 11 is designed for students who are planning post-secondary studies in science, technology, or engineering, as well as students who expect to train in industrial vocations such as carpentry, plumbing, or electrical work. The course centres on practical language activities related to skills and attitudes required in technical workplace situations. Students will gain an understanding of the importance of precision in technical communications.

Learning experiences should enable students to

- read and interpret written and visual technical text, applying appropriate strategies and responding in ways that indicate understanding
- produce effective technical documents with both print and visual components
- employ a variety of technologies to create and present technical documents
- collaborate and consult effectively with others, as well as work independently, in completing technical communications tasks
- speak and listen effectively in whole class, small group, and presentation contexts

Canadian Literature 12 (academic, 1 credit)

Course Code:
004166

NOTE: Canadian Literature 12 is an elective credit course and does not fulfil the compulsory English language arts requirement. This revised course is based on the framework provided by the *Atlantic Canada Essential Graduation Learnings* and the *Foundation for the Atlantic Canada English Language Arts Curriculum.*

Students who wish to take an additional senior English course may take Canadian Literature 12 in addition to English 12.

Canadian Literature 12 is available as a full- or half-credit course. It has been developed in a modular structure and consists of the following four modules: Atlantic Canadian Identity (a compulsory module); Cultural/Regional Perspectives; Focussed Study (this module can be taken more than once), and Canadian Voices. Students may earn a full credit with the successful completion of four modules. A half-credit comprises a minimum of two modules. Canadian Literature 12 provides opportunities for small group and independent learning, as well as a wide range of choices in literature, according to the interests of learners.

This course provides opportunities for students to become acquainted with a broad range of Canadian literature, to appreciate the rich literary heritage of Canada, and to reflect upon their understanding of the Canadian identity, community, and culture. Students should understand that Canada has its own complex but distinctive literary tradition.

African Heritage Literature 12 (academic, 1 credit or ½ credit)

Course Code:
004212 (12)
004213 (12A)
004214 (12B)

NOTE: African Heritage Literature is an elective credit course and does not fulfil the compulsory English language arts requirement. This course is based on the framework provided by the *Atlantic Canada Essential Graduation Learnings* and the

Foundation for the Atlantic Canada English Language Arts Curriculum.

Students who wish to take an additional senior English course may take African Heritage Literature 12 in addition to English 12 or English/ Communications 12.

African Heritage Literature 12 provides opportunities for students to
- < experience a wide range of literature from the African consciousness
- < appreciate the richness of literature rooted in African heritage
- < explore and reflect upon the cultural diversity represented in African heritage literature within Africa and throughout diaspora

African Heritage Literature 12 is available as a full- or half-credit course.

African Heritage Literature 12A comprises two compulsory modules:
- < Foundations of African Heritage Literature I
  - – Pre-Colonial African Literature
  - – Literature of Slavery
- < Foundations of African Heritage Literature II
  - – African Literature of the Reconstruction Period
  - – African Literature of the Renaissance Period

African Heritage Literature 12B comprises two of the following modules:
- < Gender Relationships
- < Cultural Expressions
- < Family, Community, and Relationships
- < Civil Rights
- < African Canadian Literature

Curriculum Documents

Foundation for the Atlantic Canada English Language Arts Curriculum (1996)
The Supportive Classroom: Literacy for All (1991)
English Language Arts, Grades Primary–3 (1997)
English Language Arts, *Grades 4–6* (1997)
English Language Arts, Grades 7–9 (1997)
English Language Arts, Grades 10–12 (1997)
Canadian Literature 12 (1998)
Technical Reading and Writing 11 (Draft 2002)
ArtsLinks: Active Young Readers and the Arts (2002)

Entrepreneurship Education

Atlantic Canada's economy is becoming more diversified and requires a greater emphasis on entrepreneurship, global competitiveness, and sustainable development. One of the challenges of the public school program is to offer students experiences that will help them respond to opportunities to participate in the economy. Students need to be aware of such opportunities, to become more flexible in their outlook, and to develop entrepreneurial spirit and initiative.

The essence of entrepreneurship is taking action. Entrepreneurship involves developing ideas for business, learning the processes of becoming an entrepreneur, and initiating, developing, and owning a business.

Entrepreneurship education

- allows students to move along a continuum from aspiration to business start-up to expansion
- focusses on personal qualities, characteristics, and attitudes that allow entrepreneurs to adjust successfully to new situations
- develops specific knowledge to ensure informed decision making
- emphasizes an experiential, learning-by-doing approach
- includes five specific pathways to success: peer group learning, mentoring, experiential learning, personal planning, and specific content knowledge

Elementary (Primary–Grade 6)

During elementary school years, entrepreneurship education emphasizes the development of personal qualities, characteristics, attitudes, and skills and provides diverse opportunities for students to explore and experiment with entrepreneurship and enterprise. Learners are encouraged to initiate and develop their own solutions to problems and to see possibilities for entrepreneurship and enterprise in their communities. Teachers of grades 4 to 6 may wish to use the resource *Pathways to Enterprise* (1996) to help them integrate entrepreneurship education into their instructional program. *Pathways* describes learning activities designed to enhance curriculum, to enrich learning, and to encourage children to become more aware of career options.

Junior High (Grades 7–9)

As students move through junior high school grades, more emphasis is placed on transferable skills. Students build on the enterprising attitudes and characteristics they have developed and add the skills as well as specific knowledge associated with entrepreneurship. The junior high program allows students to participate actively in experiential learning.

The teaching resource *Connections: Learning through Entrepreneurship across the Curriculum* (1999) provides teachers with ideas to facilitate the incorporation of entrepreneurial thinking into the existing curriculum at the junior high level.

Senior High (Grades 10–12)

At the senior high school level, entrepreneurship education focusses on the personal qualities, characteristics, and attitudes; transferable skills; and specific knowledge associated with entrepreneurship.

Entrepreneurship in the Cultural Industries (1998), a teaching resource developed specifically for arts educators, provides teachers and students with a range of developmental experiences that connect arts education to entrepreneurship education.

Cultural Industries 11 provides further opportunities for students to explore entrepreneurship in the cultural industries. (See "Other Arts Credit Courses" in Section E.)

Entrepreneurship 12 (academic, 1 credit)

Course Code:
002098

Entrepreneurship education is fundamental to advancing the vision of a strong entrepreneurial climate. The curriculum guide and support materials for Entrepreneurship 12 describe a "cutting-edge" course that introduces entrepreneurship as a viable career option. Students recognize that they can create their own opportunities and enjoy more control over their destinies.

Entrepreneurship 12 focusses on active, experiential learning and on developing the attitudes, skills, and knowledge required to meet the many opportunities and challenges of being an entrepreneur. The course comprises three components: action, theory, and business planning.

Students apply what they learn to organize, operate, and manage activities/ventures in four strategic areas:

- school-based activities
- business venture(s)
- community-based learning
- mentoring

As well as the 110 hours of classroom time, students are expected to complete a minimum of 50 hours of entrepreneurial activities outside the classroom.

Curriculum Document

Entrepreneurship 12 (2003)

Family Studies

The central purpose of the family studies program is to enhance the quality of life for individuals and families in Canada and throughout the world. In this program, students are encouraged to identify, clarify, examine, and deal with significant concerns they encounter in their daily lives. They are given opportunities to make reasoned and sound judgments as they consider their decisions in terms of consequences to self, family, and society.

Teachers should encourage students to forge links between theory and practice, that is, between the content and learning processes used in the classroom and the significant problems students encounter in their everyday lives. Teachers can help forge those links in the following ways:

- by recognizing that the needs of learners differ according to their maturity, developmental stage, ability level, and learning style and by adapting the lesson content and learning activities to meet these differing needs
- by helping students become engaged in dialogue and discussion in which they can explore and discover meanings significant to themselves
- by providing opportunities for students to engage in a variety of problem-solving activities, both technical problem solving and those requiring interpretation and critique

Family Studies addresses "perennial practical problems." These are problems families face in their everyday lives that require decision and action; they recur from generation to generation. "What should be done to provide your family with nutritious meals" is an example of such a problem. Solving perennial practical problems requires reasoned judgment rather than a system of dogmatic beliefs, habits, or unexplained rules.

A systems model may help students identify and clarify practical problems. It explores problems in terms of the relationships among individuals, families, and their social, economic, and political environments. For example, a lesson concerning nutrient intake in children might explore how food habits are influenced by the resources available to the family from the larger environment, by the family's use of the resources, and by the processes and values the family members use in making decisions.

This model provides a means for understanding the complexity of family problems and the reciprocal relationships between families and society.

Junior High (Grades 7–9)

NOTE: Revision of junior high family studies curriculum will begin in 2003–2004. This process will begin with the revision of Family Studies: Grade 7 to complement the new Health/Personal Development and Relationships: Grade 7 course. There will be an increased emphasis on "hands-on" learning experiences in all aspects of the program—including experiences with a range of technologies.

The junior high family studies program comprises three areas: food and nutrition, clothing and textiles, and individual and family development.

Compulsory modules are designated in the food and nutrition, and clothing and textiles areas. To enable teachers to address diverse student and community needs, a compulsory module is not designated for the "individual and family development" area.

In each area of study, teachers and students are encouraged to include a locally developed module. Recommendations for developing modules are included in the teaching guidelines.

Compulsory and elective modules from each area of family studies form the basis of the three-year junior high program to be developed by teachers within the school and/or regional school board.

Food and Nutrition

The food and nutrition area of family studies is designed to enable the adolescent to understand the basic principles of nutrition. The curriculum for these modules is being revised.

Examining nutritional, cultural, psychological, and social factors helps students develop the capacity to adopt eating patterns and lifestyles that will result in a high level of well-being. Practical applications, including food preparation, knowledge of recipes, equipment use, and safe and efficient food handling will reinforce theoretical concepts.

Modules selected should reflect current food-related issues and concerns as identified by students and the teacher. This foundation will enable students to evaluate new or conflicting information; to examine the nutritional benefits of various foods, nutrients or food practices; and to make sound personal decisions. Modules include the following: Nutrition and Management Basics (core), Nutrients for Health, Simple Family Meals and Snacks, Fast Foods, Nova Scotia Products and Related Industries, Enjoying Food with Others, Food Safety, Eating Light, Shopping for Family Food, Practical Meal Planning, Native and Multicultural Food Study, Diet for Life, Eating Disorders, and Food and Technology.

Clothing and Textiles

Clothing and textiles modules are built on individual and family clothing choices that are expressions of culture, lifestyle, and socio-economic influences. These modules incorporate the personal management and decision-making skills necessary for acquiring, caring for, and maintaining clothing, recognizing that clothing priorities will vary with individual and family resources and preferences.

The modular approach allows students to focus on practical clothing construction or a consumer-related clothing and textiles exploration study. Modules include the following: Clothing Basics (core), Family Clothing Care, Clothing and You, Fabrics for Clothing, Construction One, Construction Two, Wardrobe Management, Clothing and the Consumer, Clothing Design and Appearance, and Recycling and Redesigning.

Individual and Family Development

The individual and family development area of family studies looks at the family from a systems perspective, recognizing that the family unit interacts with its social, emotional, and physical environments. This course provides students with the opportunity to develop and enhance the skills necessary to manage their present and future family life in a climate of cultural, technological, and social change.

Modules include the following: Communication in the Family, Family Members with Special Needs, Older Family Members, The Global Family, Learning About Children, Early Childhood Development, Child Care Practicum, You and Your Money, Living Space, The Family and Work, and the Family and Its Resources.

NOTE: Some topics appear in both the family studies and the personal development and relationships program.

In schools where all students take family studies, topics that are common to both programs should be taught in family studies classes. In schools where not all students take family studies, the family studies and personal development and relationships (PDR) teachers should collaborate so that, while the integrity of both programs is maintained, duplication is avoided.

Senior High (Grades 10–12)

NOTE: Revision of senior high family studies curriculum will begin in 2003–2004. This process will include the development of a new course, Community Care 12. This career-related course will offer students opportunities to explore and develop skills leading to careers in child care, residential care, institutional care, and gerontology.

NOTE: Currently, family studies courses are elective credits. Additional family studies courses will be designed with a technology focus. When developed, these family studies options will be eligible credits to meet the technology graduation requirement.

At the high school level, students have the opportunity to further develop the skills in and knowledge of family issues they acquired during the junior high years. They do this through the areas of food and nutrition, clothing and textiles, consumer studies, child studies, housing, and Canadian families.

Senior high family studies address issues of social, political, and economic importance to families. Emphasis is placed on researching issues of social concern, questioning social practices, and being involved in rational argument and debate.

An understanding of community support services for individuals and families enables students to see various issues from a broad perspective. Guest speakers, visits to community agencies and institutions, opportunities to work/volunteer in community settings, or research projects on issues of community concern all help to develop the students' understanding of family issues.

The following courses are electives and do not require prerequisites.

Family Studies 10 (open, 1 credit)

Course Code:
005004

Family Studies 10 may be offered as a full credit. Family Studies comprises any two of the four half-credit options described below: Food and Nutrition, Clothing and Textiles, Child Studies, and Consumer Studies.

Food and Nutrition 10 (open, ½ credit)

Course Code:
005046

Food and Nutrition 10 enhances students' understanding of the relationship between one's lifestyle and nutritional well-being, helps students apply that knowledge to meal management and wise consumer decisions, and helps students develop an appreciation of one's cultural heritage and its influence on food choices. This course is developed around three modules:

- Nutrition and Health (adequate nutrition, nutrition and active living, and special concerns in nutrition)
- Meal Management (food consumerism, lifestyle trends, and technological influences)
- Food, Culture, and You (Canadian food heritage, international foods, and food and people today)

Clothing and Textiles 10 (open, ½ credit)

Course Code:
005043

Clothing and Textiles 10 enhances students' understanding of the meaning and significance of clothing in their lives, helps students acquire the necessary skills and knowledge for responsible consumerism, and helps students develop an appreciation of the many facets of the clothing and textile industry. This course is developed around three modules:

- Clothing Dynamics (clothing as self-expression, influences on clothing choice)
- The Clothing Consumer (clothing decisions, wardrobe planning, clothing resource management)
- The Clothing Marketplace (the fashion industry, future trends in clothing, occupations in the clothing and textile industry)

Child Studies 10 (open, ½ credit)

Course Code:
005047

Child Studies 10 explores the many roles and responsibilities involved in caring for young children, provides students with practical information on nurturing and interacting with children, and develops in students an appreciation of the importance of nutrition, play, music, and language in child development. This course is developed around four modules:

- Caring for Children (parenting decisions, day care for children, child protection)
- Learning through Play (stages of play, kinds of play, toy safety)
- Nourishment for Children (nutrition and the young child, creative meal planning, eating problems)

AND EITHER

- Story Time for Children (exploring children's literature, selecting books for children, telling stories)

OR

- Music for Children (value of music experiences, music and song selection, rhythm and creative movement activities)

Consumer Studies 10 (open, ½ credit)

Course Code:
005066

Consumer Studies 10 helps students develop a realistic understanding of the marketplace and of their rights and responsibilities and helps them develop strategies for making rational consumer decisions. This course is developed around three modules:

- The Environment of the Adolescent Consumer (adolescent consumers as members of society, the setting for consumer behaviour)
- The Consumer in Action (personal financial management, consumer protection)
- Surviving in the Marketplace (physical marketplace, consumer choices, occupational opportunities in consumerism)

Child Studies 11 (open, 1 credit)

Course Code:
005005

Child Studies 11 is a one-year course designed to help students explore the meaning and implications of responsible parenthood; to help them acquire current information regarding reproduction, pregnancy, and childbirth; to help them explore significant issues of early childhood; and to help them apply the understanding of child development to the care and guidance of children. The course is developed around five modules:

- Decisions about Parenthood (the decision to become a parent, parenthood alternatives)
- The Beginning of Parenthood (human reproduction, pregnancy, childbirth, the newborn)
- Early Childhood Development (the infant, the toddler, the preschooler, the school-age child)
- Special Concerns in Child Development (day care, children with special needs, children in crisis, support services, occupational opportunities with children)
- Practical Experiences with Children (an in-school or out-of-school practicum)

Canadian Families 12 (open, 1 credit)

Course Code:
005065

Canadian Families 12 is a one-year course designed to develop an understanding of the nature of families in historical, social, and cultural contexts; to promote awareness of the role played by economics, work, and shelter in maintaining successful families; and to examine the physical, social, and emotional dimensions of family health in adopting a preventive approach to family well-being. This course is developed around three modules:

- Images of Families (historical perspective, families today, family law, families of the future)
- Family Development (relationships, family arrangements, parenting, families in later life, death as a process)
- Family Well-Being (family health, family economics, family and work, family shelter)

Family Studies 12 (open, 1 credit)

Course Code:
005006

Family Studies 12 may be offered as a full credit. Family Studies comprises any two of the three half-credit options listed below: Housing, Clothing and Textiles, and Food and Nutrition.

Housing 12 (open, ½ credit)

Course Code:
005045

This half-credit course in housing assists students in assessing housing environments to meet family shelter needs, to explore community concerns and support services related to available adequate shelter, and to develop an appreciation of the problems related to national and global shelter. This course is developed around three modules:

- The Family (family housing needs, family shelter economics, family shelter management)
- The Community (sheltering in the community, community services)
- The Globe (global shelter issues)

Clothing and Textiles 12 (open, ½ credit)

Course Code:
005044

This half-credit course in clothing and textiles explores significant factors in making family clothing decisions, helps students recognize the effect of societal attitudes and practices on these decisions, and develops an understanding of the clothing needs of individuals in Canada and other countries around the world. This course is developed around three modules:

- The Family (clothing as an expression of family lifestyle, family clothing economics, family clothing management)
- The Community (clothing in the community, community services)
- The Globe (clothing cross-culturally, the global textile industry)

Food and Nutrition 12 (open, ½ credit)

Course Code:
005051

This half-credit course in food and nutrition develops an understanding of resource management in meeting family food needs, an appreciation of the importance of preventive health care through an exploration of nutrition-related health concerns and community support services, and an awareness of global food issues. This course is developed around three modules:

- The Family (family food needs, family food economics, family food management)
- The Community (community food issues, community services)
- The Globe (global food issues)

Curriculum Document

NOTE: We regret that there currently are no curriculum documents to support the family studies program.

French Second Language

Core French

The aim of the Core French program is to develop the learner's ability to communicate effectively in French. At all levels, the focus is on a multidimensional curriculum that integrates communicative/experiential, culture, general language education, and language components.

To help students develop their communication abilities, learning experiences in Core French must be relevant to the learner. Teaching materials that explore all domains of students' experiences should be included in the curriculum. These include social, physical, leisure, civic, and intellectual domains.

Culture and general language education should be integrated into every unit. Through this general language education component, students should develop an awareness of language, culture, and language-learning strategies. Language should become progressively more complex and be selected according to the language needs of learners in relation to experiences and activities. Language must be presented and practised in context.

Learners should be exposed to a variety of proficient language models, and French must be the language of the classroom. Daily French instruction and a classroom designated for French are necessary for creating and maintaining an atmosphere facilitating language acquisition. In addition, students must have access to authentic documents.

A variety of teaching strategies, including extensive small group work, is necessary to provide maximum student interaction and collaboration, which develops comprehension, production, and negotiation skills. Assessment strategies should be an integral part of the curriculum and must reflect the components of a multidimensional curriculum.

It is essential that teachers of different grade levels work collaboratively to facilitate students' smooth transition from one level to another.

As a result of their cumulative experiences in the Core French program, by the end of grade 12, students should be able to

- communicate effectively in French and to interact appropriately in a variety of situations related to their interests and needs
- choose and use strategies that help both with communication in French and with their general education
- demonstrate an appreciation of Francophone cultures as well as an appreciation and understanding of Canada's multicultural context
- use certain language items in context to facilitate communication in French in a variety of situations

Elementary (Grades 4–6)

In French study at the elementary level, students are involved in activities and projects that reflect their interests, needs, and experiences. The content is organized according to the five dimensions of the communicative/experiential syllabus of the National Core French Study: civic, leisure, intellectual, physical, and social. The learning outcomes for each of the components and for the language skills—oral and written comprehension as well as oral and written production—are stated in the multidimensional curriculum. Emphasis at the elementary level is placed on oral comprehension, communication, and interaction; however, reading and writing skills are introduced in context from the beginning of grade 4. Where possible, other subject areas should be integrated.

Assessment must reflect the multidimensional curriculum, content, and approaches, with meaningful, contextualized, performance-based tasks.

Junior High (Grades 7–9)

In French study at the junior high level, students extend their activities and learning from the elementary years. The program content continues to follow the National Core French Study syllabus. Emphasis is on using language in context with at least 60% of the learners' time devoted to oral comprehension, communication, and interaction.

Assessment must reflect the multidimensional curriculum, content, and approaches, with meaningful, contextualized, performance-based tasks.

Senior High (Grades 10–12)

Core French 10, Core French 11, and Core French 12 (academic, 1 credit each)

Course Code:
007097 (10)
007098 (11)
007099 (12)

The senior high French program is designed to develop comprehension, communication, and interaction skills and strategies through experiential teaching materials that incorporate a variety of authentic documents. Topics, tasks, and final projects are aligned with students' experiences and interests. Areas to study include the future, career plans, the media, the arts, social and technological trends, as well as Francophone cultures and multiculturalism.

The linguistic component is chosen according to the language needs of learners in relation to the tasks and projects. Emphasis continues to be placed on using language in meaningful communicative contexts. Assessment must reflect these principles, with a maximum of 25 percent of time spent analysing the form of the language.

Extended Core French

Junior High (Grades 7–9)

A curriculum guide for the language arts course offered in the extended core French program at the junior high level will be developed during the next school year.

Senior High (Grades 10–12)

A curriculum guide for the language arts course offered in the extended core French program at the senior high level will be developed during the next school year.

French-Extended Core 10, French-Extended Core 11, and French-Extended Core 12 (academic, 1 credit each)

Course Code:
007103 (10)
007104 (11)
007105 (12)

French Immersion Language Arts

The French immersion language arts program is designed to allow students to

- communicate effectively in French
- explore alternative forms of expression and representation
- read and to appreciate a variety of literary forms
- respond personally and critically to a variety of texts
- value French language and culture, among others
- reflect on their experiences and learnings

The outcomes for the French immersion language arts program describe what all students enrolled in French immersion programs should know and be able to do as well as the attitudes they should develop as a result of their experiences in the program. This implies that all students can be successful and learn. However, each child learns at his/her own pace, and language learning does not occur in a linear fashion; it is recursive in nature.

Students will arrive at different stages at varying times during their learning process.

Valuing French language and culture constitutes an integral part of all the activities of the French language arts program. In fact, it forms the backdrop of the entire program. As a result of their cumulative experiences in the French Immersion language arts program, students should be able to

- demonstrate a positive attitude towards the French language and towards Francophone communities in a national and international context
- demonstrate an understanding of and a respect for a diversity of cultures
- communicate in a variety of situations to respond to their individual needs
- use appropriate strategies and techniques to facilitate their listening and speaking experiences
- use appropriate strategies and techniques to facilitate their reading and viewing experiences
- demonstrate their understanding of a wide range of texts, depending on the situation and on their individual needs
- use appropriate strategies and techniques to facilitate their writing and other forms of representing experiences

Elementary (Primary–Grade 6)

The elementary French immersion language arts program was developed according to the principle that language is not only a means of communication but also a vehicle for thought and learning. It is designed to allow students to develop oral, written, and visual skills in an integrated manner by means of authentic and meaningful situations while allowing them to develop their own learning strategies.

Junior High (Grades 7–9)

Early Immersion

The junior high early immersion French language arts program is currently being developed.

Late Immersion

The junior high late French immersion language arts program is designed to support the language needs of students in other subjects taken in French. The program provides opportunities for students to develop and to enhance their communication skills, to refine their thinking and problem-solving skills and to develop a better understanding of their own language and culture. Students are engaged in a variety of authentic and meaningful situations in which they must give and request information, express their thoughts and opinions, amuse and entertain, as well as satisfy and use their imagination. By interacting with others, students learn, in context, elements of language that facilitate communication in French.

Senior High (Grades 10–12)

The senior high French immersion language arts program is designed to support the language needs of students in other subjects taken in French. It provides opportunities for students to improve their ability to think and to communicate effectively in French as well as to appreciate and enjoy French language and culture. Speaking and listening are particularly emphasized as these constitute the most prevalent modes of communication in everyday life. However, an increased emphasis is placed on reading and writing through meaningful and varied activities.

Français-immersion 10 (academic, 1 credit)

Course Code:
007106

This immersion course emphasizes using French for a variety of purposes. Students are engaged in listening and speaking experiences that require them to communicate information and respond orally to a variety of texts, such as conversations, interviews, documentaries, articles, poems, short stories, and novels. Reading and literature include articles, poems, mythology, short stories, and novels. Students are engaged in written activities through which they present information, write letters, and express their feelings about different events and situations. The course also explores other forms of viewing and representing.

Français-immersion 11 (academic, 1 credit)

Course Code:
007107

In the grade 11 French immersion course, students continue to listen and respond to a variety of texts and to communicate orally information on various topics. Students are involved in such activities as improvisation and drama. Reading and literature include articles, biographies, poems, mythology, short stories, and novels. Writing activities include letters, tales, short stories, reports, and research papers. The course also explores other forms of viewing and representing.

Français-immersion 12 (academic, 1 credit)

Course Code:
007108

In grade 12, students continue to develop their listening and oral skills in French while engaged in a wide range of activities. Reading and literature include many forms and genres, including articles, position papers, poetry, legends, short stories, novels and drama. Students write informative reports, research papers, and briefs. The course also explores other forms of viewing and representing.

Curriculum Documents

Français de base à l'élémentaire, 4e à la 6e année (1998)
*Français de base au secondaire 1er cycle, 7e à la 9e année (*1999)
Français de base au secondaire 2e cycle, 10e, 11e, 12e année (2003)
Programme d'études de français immersion - maternelle à la 3e année (No 166, document provisoire 1998)
Programme d'études de français immersion - 3e à la 6e année (No 167, document provisoire 1998)
Français-7e á la 9e année - immersion tardine (2003)
Français - immersion - 10e à la 12e année (2003)

Gaelic Language

Elementary (Grades 3–6)

The aim in teaching Gaelic at the elementary level is to encourage interest in and arouse curiosity about the Gaelic heritage. Initially, students are taught common conversational phrases so they may experience a sense of satisfaction and achievement. The use of songs, games, and stories is very helpful at this stage. The songs and stories should be drawn from local tradition, if possible. This allows the students to receive approval in their own environment.

Students should have the opportunity to become familiar with historical events of particular significance to Canadians with a Scottish background. The lives of famous Canadians who share this common bond should be studied.

Daily periods of instruction in a second language are more effective than longer, more infrequent periods. It would be advantageous to have a particular classroom assigned to the teacher of Gaelic. The teacher may then create a better learning environment where language, social studies, and cultural projects can be integrated as part of the Gaelic program.

With an early introduction to the aural/oral skills and an interest in the cultural background of the Scottish tradition, the students should find the motivation needed to maintain their interest. The level or levels at which Gaelic is to be included is a matter for local decision, with advice from staff of English Program Services, if desired.

Junior High (Grades 7–9)

Junior high continues to develop students' aural/oral skills in Gaelic and to provide the opportunity to deepen the students' understanding of Scottish culture. At this level, students are also introduced to the skills of reading and writing in Gaelic. A minimum of 25 percent of class time should be provided for this in the early stages. This focus should permit the students to profit from their previously acquired skills, both for their further development and as a base for reading and writing. It is, however, important that speaking and aural comprehension not be neglected. At the end of this stage, the student should be able to use a four-skill approach to prepare simple compositions for both oral and written presentations.

Senior High (Grades 10–12)

NOTE: Development of a new curriculum for the senior high Gaelic program will be resumed in 2003–04.

Gaelic 10 (academic, 1 credit)

Course Code:
007014

Senior high students who have not had previous instruction in Gaelic at the elementary and junior high school levels should follow the program at an accelerated pace. For other students, the reading and writing skills should further support the already acquired aural/oral skills.

Gaelic 11 (academic, 1 credit)

Course Code:
007015

By this stage, students should have acquired a reasonable degree of fluency in the oral use of the language. They should be allowed ample opportunity to continue to strengthen this skill. A study of grammatical structure is joined to the practical use of the four skills to enable students to begin to understand basic relationships in language usage.

Gaelic 12 (academic, 1 credit)

Course Code:
007016

The four-skill approach with cultural elements continues to serve as a base for this level. Further studies in the structure of the language and readings at an appropriate level, selected by the teacher, will be part of this program.

Curriculum Document

Gaelic 10 (Pilot Draft, 2000)

Health Education

The purpose of health education in schools is to foster the growth of knowledge, attitudes, skills, and lifelong behaviours that will enable students to assume responsibility for healthy living and personal well-being.

Foundation for Active, Healthy Living: Physical and Health Education Curriculum (1997) provides a framework on which educators and others in the learning community can base decisions concerning learning experiences, instructional techniques, and assessment strategies, using curriculum outcomes as the reference point. This framework provides a coherent, integrated view of learning and teaching physical and health education that reflects current research, theories, and classroom practice.

Elementary (Primary–Grade 6)

Grades Primary–3

Health education in grades primary–3 promotes active and healthy living as a way of life not only within a classroom but also throughout the school and community.

The current curriculum for health education has two broad strands: *Understanding Myself and Others* and *Taking Care of Myself and Others*.

Health education curriculum for grades primary–2 requires 50 minutes of instructional time per week. Health education curriculum for grade 3 requires 60 minutes of instructional time per week. The curriculum offers many opportunities for links to learning in other subject areas.

New curriculum for health education grades primary–3 will be introduced in 2004–2005. The new curriculum for grades primary–3 will be organized under four strands:

The Body, Growth, and Development
Strategies for Healthy Living
Values and Practices for Healthy Living
Strategies for Positive Personal Development and Healthy Relationships

The four strands are interdependent and interrelated, and together they help to form a health education curriculum shaped by the vision of learners experiencing purposeful learning experiences and developing knowledge, skills, and attitudes related to the health benefits of an active healthy lifestyle.

Key Concepts

The organizing strands are divided into several key concept areas that are consistent in each grade level, but offer students new learning experiences as they proceed from grade to grade. The key concepts in each grade level are identified in the following categories:

- My Body, My Self
  - Knowing and Appreciating Myself
  - Making Choices/Solving Problems
  - Feelings
  - Growing Strong and Healthy
  - Eating Healthy Food
- Safety
  - Warning! Unsafe Substances
  - Protecting My Health and Safety
  - Safety with Others
  - Emergencies
- At School with My Friends
  - What Is a Friend?
  - Together at School
  - Staying Healthy at School
- At Home with My Family
  - What Is a Family?
  - Together at Home
  - Staying Healthy at Home
- Community Living
- At Home in Nature

Grades 4–6

New curriculum for health education grades 4–6 was introduced in 2002–2003. Health education curriculum in grades 4–6 requires 60 minutes of instructional time per week. The curriculum offers many opportunities for links to learning in other subject areas.

The curriculum for grades 4–6 is organized under four strands:

The Body, Growth, and Development
Strategies for Healthy Living
Values and Practices for Healthy Living
Strategies for Positive Personal Development and Healthy Relationships

The four strands are interdependent and interrelated, and together they help to form a health education curriculum shaped by the vision of learners experiencing purposeful learning experiences and developing knowledge, skills, and attitudes related to the health benefits of an active healthy lifestyle.

Key Concepts

The organizing strands are divided into several key concept areas that are consistent in each grade level, but offer students new learning experiences as they proceed from grade to grade. The key concepts in each grade level are identified in the following categories:

- My Body, My Self
  - Self Management
  - Body Function, Growth, and Care
  - Disease Prevention
- Safety
- Lifestyle Choices
  - Influences
  - Gender Roles
  - Nutrition and Fitness
  - Tobacco, Alcohol, and other Drugs
- Healthy Relationships
- Citizenship in the School and Community

Junior High (Grades 7–9)

Health education in grades 7–9 is an integral component of the Health/Personal Development and Relationships which is part of the core program. An integral part of the total educational process in the junior high grades, Health/Personal Development and Relationships offers all students opportunities to acquire the knowledge, skills, and attitudes required to enhance their quality of life through active, healthy living.

New Health/Personal Development and Relationships curriculum has been developed for grades 7–9. When implemented, the new curriculum will supersede *Personal Development and Relationships, Grades 7, 8, 9* (1992).

Health/Personal Development and Relationships 7 curriculum will be introduced in 2003–2004 and become a requirement in 2004–2005. The new grade 7 course builds on the curriculum described in *Foundation for Active Healthy Living: Physical and Health Education Curriculum* (1998) and *Health Education: Grades 4–6* (2003), integrating the concepts of personal health management, health promotion, and health education.

Key Concepts

Health/Personal Development and Relationships 7 curriculum outcomes are organized into four units:

- My Body, My Self
  - Self-Management
  - Body Function and Growth
  - Disease Prevention
  - Safety
- Lifestyle Choices
  - Nutrition and Fitness
  - Risk Taking: Influenced and Consequences
  - Life/Work Building
- Healthy Relationships
- Citizenship

The draft curriculum for grades 8 and 9 is described in *Health/Personal Development and Relationships: Grades 7–9* (Draft 2000)

Senior High (Grades 11–12)

In high school, health learning outcomes are addressed in a number of subject areas, such as Biology 11 and Biology 12. The compulsory half-credits Career and Life Management 11 and Physically Active Lifestyles 11 include a number of health-learning outcomes. Further descriptions of the these courses are included under Personal Development and Career Education in Section P.

Curriculum Documents

Foundation for Active, Healthy Living: Physical and Health Education Curriculum (1998)
Health Education, Grades 4–6 (2003)
Health/Personal Development and Relationships, Grades 7–9 (2000)
Health/Personal Development and Relationships 7 (2003)

Mathematics

Elementary (Primary–Grade 6)

The elementary mathematics program includes four strands and related general curriculum outcomes:

Number Concepts/Number and Relationship Operations

Students will be expected to
- < demonstrate number sense and apply number theory concepts
- < demonstrate operation sense and apply operation principles and procedures in both numeric and algebraic situations

Patterns and Relations

Students will Students will be expected to
- < explore, recognize, represent, and apply patterns and relationships, both informally and formally

Shape and Space

Students will Students will be expected to
- < demonstrate an understanding of and apply concepts and skills associated with measurement
- < demonstrate spatial sense and apply geometric concepts, properties, and relationships

Data Management and Probability

Students will Students will be expected to
- < solve problems involving the collection, display, and analysis of data
- < represent and solve problems involving uncertainty

These strands should be interrelated and explored in a spiral manner that is introduced early and periodically reviewed and extended, to provide many varied opportunities for children to make connections; to discover the order, pattern, and relations that are the basis of mathematics; and to acquire the necessary mathematical understandings. Learners need to recognize relationships among various mathematics strands and topics and to link concepts and procedures.

The outcomes articulated for the content strands are based on the unifying ideas—communication, problem solving, reasoning, and connections.

Language and Communication play key roles in helping learners develop mathematical understandings. The program, therefore, must include many opportunities for students to question, reflect, discuss, and write and to use physical materials, pictures, and diagrams to illustrate and to communicate mathematical ideas.

Problem solving is the basis for the entire mathematics program and should provide the context for developing and applying mathematical concepts and skills. Students should have many problem-solving experiences that arise from school and other everyday contexts. The program should emphasize developing and applying strategies for solving a wide variety of problems.

Reasoning. The elementary mathematics program emphasizes reasoning at all levels. Students need many opportunities to use models, known facts, properties, patterns, and relationships to explain their thinking.

Connections. Natural connections among mathematical concepts and representations, as well as the connections that exist across curricula and in the everyday world of children, need to be emphasized in the elementary mathematics program.

Learners in early elementary school need ample opportunity to develop their abilities to compare, classify, and sort before working with the concept of numbers. These preliminary abilities and concepts are essential to the future mathematics development of learners.

The elementary mathematics program emphasizes working with fractions and decimals. All children need to acquire an efficient method for applying each of the four operations with whole numbers and with decimals. These methods are to be well-grounded in experiences with concrete materials, using real objects first and then structural

materials, such as unifix cubes or base ten blocks. Children should apply these operations to many everyday situations. Students need to be able to use a variety of mental computation and estimation strategies. They also need to learn to use calculators in appropriate computational situations.

The mathematics learning outcomes for each key stage (grades 3 and 6) are presented in *Foundation for Atlantic Canada Mathematics* (1996). For a detailed description of concepts, skills, and procedures, see the *Atlantic Canada Mathematics Curriculum Grades Primary–3* (1998) and *Grades 4–6* (1999).

At all levels, a variety of teaching methods and contexts should be used, including

- extensive experience with concrete materials whenever a new concept is introduced
- opportunities for students to proceed at their own rate through the stages of
  - exploring and experimenting with material
  - forming and testing hypotheses about relationships
  - communicating findings, first by word of mouth or by diagram, then through writing or symbols
  - practising to establish a concept once it has been understood, usually following, rather than preceding discovery

The student's attitude towards learning is of prime importance in helping the student succeed. The seeds of a positive attitude to mathematics are sown in relevant activities, discussions, and applications to new situations.

Junior High (Grades 7–9)

To meet the varying needs and abilities of pupils in the junior high school, the mathematical experiences available should be large in scope and varied in purpose. They should evolve from the students' earlier learning experiences; hence, those planning the program must have a clear understanding of the elementary school mathematics program. To maintain student interest and responsibility in the learning situation, teachers should broaden their classroom techniques to include such methods as small group investigations, mathematics laboratory experiences, games and puzzles, visual aids, concrete models, applications to the environment, problems related to real situations, projects, and individualization of some aspects of the program.

In planning classroom activities, teachers should be aware of the spiral nature of the mathematics curriculum in which ideas are introduced early and extended by periodically returning to consider them in greater depth.

The junior high mathematics program should emphasize

- developing and understanding concepts by having students interplay between the five representations: concrete, pictorial, verbal, symbolic, and contextual
- solving problems to investigate and understand mathematical content
- developing and using problem-solving strategies
- using mental math and estimation strategies on a daily basis
- applying mathematics in real-world situations
- modelling situations using oral, written, concrete, pictorial, graphical, and algebraic methods
- discussing mathematical ideas and making conjectures and convincing arguments
- understanding and applying reasoning processes with special attention to spatial reasoning and reasoning with proportions and graphs
- using technology appropriately to develop concepts as an aid in problem solving and for some computations

Grade 7

In a context of interesting problems that are meaningful to students, teachers and students in grade 7

- review and extend the use of operations and properties with whole numbers and decimals
- use mental math strategies to develop mastery of calculation skills, which will then lead to estimating answers using appropriate estimation strategies
- compare and order fractions, describing mixed numbers and improper fractions concretely, pictorially, and symbolically

- work with integers to develop understanding of the four operations concretely and pictorially and to develop competency with symbols
- work with factors, prime and composite numbers, least common multiple, and greatest common factor
- solve problems involving real situations and informal graph theory
- examine estimation, metric measurement applications, ratio, percent, consumer problems, statistics, data analysis, and probability
- develop algebraic thinking, including the understanding of variable, expression, and equation
- represent situations and number patterns with tables, graphs, verbal rules, and equations and explore their interrelationships
- solve one- and two-step equations
- justify combinations of triangle classifications
- determine and use relationships between angle measures and side lengths in triangles
- apply angle pair relationships pertaining to parallel lines and triangles
- explain using a model why the angles in a triangle must sum to 180°
- sketch and build 3-D objects
- draw, describe, and apply the three transformations and identify and use the properties
- examine geometric constructions using a variety of methods
- create and describe designs using transformations
- identify, use, and convert among the SI units to measure, estimate, and solve problems that relate to length, area, volume, mass, and capacity
- apply concepts and skills related to time
- develop and use rate as a tool to solve indirect measurement problems
- apply relationships among diameter, radii, and circumference of circles
- read and interpret tables, charts, maps, and graphs including histograms
- conduct survey projects using appropriate data collection methods
- apply probability concepts
- identify all possible outcomes of two independent events using tree diagrams and area models
- apply strategies for problem solving

Grade 8

Grade 8 continues to develop skills and concepts begun in grade 7 and introduces new ones. Together, the teacher and student

- solve problems using whole numbers, integers, and decimals
- develop operations with common fractions concretely and pictorially, bringing to symbolic competence with emphasis on applications, problem solving, mental math, and estimation
- continue to develop algebraic concepts and processes to enhance the understanding of variable, expression, and equation
- represent situations and number patterns with tables, graphs, verbal rules, and equations and explore their interrelationships
- link visual characteristics of slope with its numerical value
- solve problems by finding the intersection of two graphs
- use square roots, exponents, and scientific notation
- use ratio, proportion, percent, scale drawing
- apply metric measurement, including perimeter, area, volume, estimating, rounding, and precise measurement
- estimate the area of circles
- develop and use the formula for area of circles
- describe relationships between areas and perimeter of quadrilaterals, and the area and circumference of circles
- calculate area of composite figures
- estimate and calculate the volume and reinforce areas of right prisms and cylinders and of composite 3-D figures
- examine and apply Pythagorean relationships
- examine and draw 3-D objects
- apply transformations to 3-D objects
- analyse regular polygons and their properties
- represent, analyse, describe, and apply dilatations
- explore randomness and the variability of repeated samples
- construct and interpret circle graphs and box plots
- determine and apply line of best fit
- conduct experiments to find probabilities of single and complementary events
- determine theoretical probabilities of single events and complementary events

- continue developing and using problem-solving strategies

Grade 9

The grade 9 course reviews, extends, or introduces concepts involving

- integers, rational and irrational numbers, exponents, decimal approximations of square roots, and applications including Pythagorean Theorem
- explain and apply exponent laws for integral exponents
- model, solve, and pose problems involving scientific notation
- represent problems using matrices and operate on matrices (+, -, scaling, multiplication)
- apply SI measurement, including perimeter, area, volume and surface area, precision, and estimation
- examine relations, solving linear equations and inequalities, graphing linear and non-linear relations, evaluating expressions, adding and subtracting polynomials, multiplying and dividing by monomials, calculating the product of two binomials, factoring
- demonstrate that communicative, associative, distributive, identity, and inverse properties apply to operation on algebraic expressions
- determine the equation of a line by obtaining the slope and *y*-intercept from a graph
- ratio, proportion, percent, rate, and applications
- relate the volume of pyramids and cones to the volume of prisms and cylinders of equal bases and heights
- develop and apply ratios within similar triangles
- investigate and determine the conditions sufficient to produce a unique triangle
- identify, apply, and justify minimum conditions for congruent triangles
- relate congruence to similarity and apply properties of similar triangles
- analyse and describe transformations and their combinations using mapping notations and apply mapping notations
- investigate, determine, and apply the effect of transformations on congruence, similarity, and orientation
- determine strengths of relationships in scatter plots
- construct a line of best fit and find its equation using slope and *y*-intercept
- construct a curve of best fit
- display data in the most appropriate way and defend method chosen
- understand the role of data management in society
- make predictions and conduct experiments and simulations to determine probabilities involving dependent and independent events
- determine theoretical probabilities of compound events
- devise and apply strategies for problem solving

Senior High (Grades 10–12)

In planning their classroom activities, teachers should introduce ideas early and extend students' learning through periodic reviews that consider them in greater depth.

The senior high mathematics curriculum should

- refine and extend methods of mathematical problem solving
- include problem-solving approaches to investigate and understand mathematical content
- develop concepts through the interplay among the five representations: concrete, pictorial, verbal, symbolic, and contextual
- use mental math and estimation strategies on a daily basis
- apply the process of mathematical modelling to real-world situations
- continue to develop language and symbolism to communicate mathematical ideas
- include numerous and varied experiences that reinforce and extend logical reasoning
- test conjectures and express generalizations discovered through investigations
- investigate the connections and interplay among various mathematical topics and their applications

Students and teachers should use appropriate technology as a tool in computation and problem solving and as a means of developing concepts or enhancing the teaching/learning process.

Grade 10

Two new mathematics courses have been implemented at the grade 10 level: Mathematics Foundations 10, a graduation credit, and Mathematics 10, an academic credit.

Most of the specific curriculum outcomes designated for Mathematics Foundations 10 are the same as those designated for Mathematics 10. The significant difference between the two courses lies in the levels of performance expected in regard to some outcomes.

The Mathematics foundations courses are characterized by a greater focus on concrete activities, models, and applications with less emphasis given to formalism, symbolism, computational or symbolic-manipulating ability facility, and mathematical structure. The academic level courses involve greater attention to abstraction and more sophisticated generalizations, while the foundations courses would see less time spent on complex exercises and connections with advanced mathematical ideas.

Typically, students who should enrol in the foundations courses will have experienced considerable difficulty in mathematics throughout their schooling and may lack confidence in their ability to learn. In addition, their literacy skills may not be on par with students of the same age. They may need more time on (more "passes" at) new concepts and may need connections presented in more explicit ways. They often exhibit lower self-esteem (math-wise) and require an instructional mode which is willing to accommodate time given to missing prerequisite skills/knowledge. These students need equal (or perhaps greater) access to technology. It is anticipated that approximately 30% of grade 10 students will enrol in Mathematics Foundations 10 to meet their learning needs.

Mathematics Foundations 10 (graduation, 1 credit)

Course Code:
008009

Students in Mathematics Foundations 10 will explore the following subject areas:

Data Management
- designing and conducting experiments
- interpreting displays of data
- studying distributions
- examining scatter plots and trends

Networks and Matrices
- translating between networks and matrices
- understanding multiplication of matrices and powers of matrices

Patterns and Equations
- representing patterns
- developing equations from patterns
- solving linear and quadratic equations
- manipulating polynomials

Modelling and Functions
- interpreting and constructing graphs
- exploring functions
- modelling—linear and non-linear regression

Trigonometry
- solving problems in similarity and right triangles, vectors, and bearings
- understanding the Pythagorean Theorem and testing its proofs
- applying right triangle trigonometry

Geometry of Packaging
- developing and applying perimeter, area, surface area, and volume
- discovering relationships between fixed perimeters and area and between fixed volumes and surface areas
- applying inductive reasoning

Mathematics Foundations 10 Plus (graduation)

Course Code:
008158

This course follows the Mathematics Foundations 10 curriculum but is presented over 220 hours to allow additional time for teaching and learning. Mathematics Foundations 10 Plus is a two-credit course, providing successful students with one mathematics credit (Mathematics Foundations 10—Course Code 008009) and one elective credit (Mathematics Foundations 10 Plus—Course Code 008158).

The additional hours are used to meet the individual needs of students who require additional opportunities to increase their mathematics skills and problem solving abilities. Students have opportunities to re-visit concepts, skills, and procedures that require review andor more developmental time, and to focus on problem-solving strategies and other mathematics skills that they have not yet acquired. For example, while developing the concept of variability in statistics, students are required to construct and interpret histograms and box plots. Students have been introduced to these statistical plots at earlier grades, but may need more time in grade 10 to re-visit how to construct or interpret before these plots can be helpful to the students in the Mathematics Foundations 10 curriculum.

Mathematics 10 (academic, 1 credit)

Course Code:
008008

NOTE: Recommended Prerequisite: Grade 9 Mathematics

Students in Mathematics 10 will explore the following subject areas:

Data Management
- < designing and conducting experiments
- < interpreting displays of data
- < studying distributions, normal curve, and standard deviation
- < examining scatter plots and trends

Networks and Matrices
- < translating between networks and matrices
- < understanding multiplication of matrices and powers of matrices

Patterns and Equations
- < representing patterns
- < developing equations from patterns
- < solving equations—linear, quadratic, exponential, simple radical and absolute value
- < manipulating polynomials

Modelling and Functions
- < interpreting and constructing graphs
- < developing functions and function notation
- < understanding transformations of the quadratic and absolute value functions
- < modelling—linear and non-linear regression

Trigonometry
- < solving problems in similarity and right triangles, vectors, and bearings
- < understanding the Pythagorean Theorem and testing its proofs
- < applying right triangle trigonometry

Geometry of Packaging
- < developing and applying perimeter, area, surface area, and volume
- < discovering relationships between fixed perimeters and area and between fixed volumes and surface areas
- < applying inductive reasoning and developing arguments

Linear Programming
- < interpreting and writing constraints
- < representing constraints algebraically as inequalities and with graphs
- < solving systems of equations
- < solving linear programming problems using graphs

Mathematics 10 Plus (academic)

Course Code:
008157

Mathematics 10 Plus follows the Mathematics 10 curriculum but is presented over 220 hours to allow additional time for teaching and learning. Mathematics 10 Plus is a two-credit course, providing successful students with one mathematics credit (Mathematics 10—Course Code 008008) and one elective credit (Mathematics 10 Plus—Course Code 008157).

The additional hours are used to meet the needs of students who are strong academically but who require additional opportunities to increase their mathematics skills and problem-solving abilities. Students have extended opportunities to re-visit concepts, skills, and procedures that require review and/or more developmental time; focus on problem-solving strategies; and acquire or consolidate the skills required for success in academic mathematics.

For example, while connecting factors, roots, and zeros of quadratic expressions and functions, students have more time to review their polynomial operations learned in previous grades.

Grades 11 and 12

Three new mathematics courses were implemented in September 2000 at the grade 11 level: Mathematics Foundations 11, a graduation credit; Mathematics 11, an academic credit; and Advanced Mathematics 11, an advanced credit.

In September 2001, three more new mathematics courses were implemented at the grade 12 level: Mathematics Foundations 12, a graduation credit; Mathematics 12, an academic credit; and Advanced Mathematics 12, an advanced credit.

In February 2002, an additional advanced mathematics course, Pre-Calculus Mathematics 12, was implemented for students who wish to attain a fourth mathematics credit.

As students enter grade 11, some will continue their studies working on courses at the graduation level, Mathematics Foundations 11 and Mathematics Foundations 12. Others will make a choice between academic and advanced courses. Students enrolled in advanced courses will be expected to achieve not only the specific curriculum outcomes at the academic level, but additional outcomes as well. Students taking the advanced courses should be mathematically more able. Emphasis will be placed on quality, depth, and originality. Students require time working with other students who are similarly interested in going further and deeper into mathematical concepts. It is anticipated that in grades 11 and 12, 25% of students will enrol in graduation level courses, and 25% in advanced level courses.

Students working in advanced courses will typically have been very successful in prior mathematics courses and will remain successful because of their level of understanding of previous experiences, their willingness and ability to work in the abstract, and their work ethic. Extensions in their study should include

- more challenging open-ended problem solving where solutions can be taken beyond the expected to a higher level of awareness and abstraction
- more problems that combine more concepts, bring together more skills and procedures into one context
- greater facility with, and more need for algebraic manipulation
- more opportunity to make conjectures, followed by proof
- more experience dealing with logic, and deductive reasoning
- more opportunity for reading, and independent research, for the purpose of obtaining more depth and breadth, and instilling a more positive attitude towards and valuing of mathematics

Mathematics Foundations 11 (graduation, 1 credit)

Course Code:
008011

NOTE: Recommended Prerequisite: Mathematics Foundations 10 or Mathematics 10

Students in Mathematics Foundations 11 will explore the following subject areas.

Making Choices—Linear Programming
- solving systems of linear equations using graphs and algebraic methods
- finding constraints for variables in problems
- representing constraints with equations and graphs
- using linear programming to find the optimal solution to a problem

Independent Study
- research, present, and learn mathematics independently

Making Decisions in Consumer Situations
- income, deductions, and taxes
- budgets and financial planning
- costs of credit and transportation
- simple and compound interest
- developing and applying decision-making charts

Statistics
- sampling, bias, variability
- exploring distributions
- displaying and interpreting data

- using normal curve, mean, and standard deviation

Trigonometry
- applying Laws of Sines and Cosines
- exploring areas of triangles

Mathematics 11 (academic, 1 credit)

Course Code:
008067

NOTE: Recommended Prerequisite: Mathematics 10

Students in Mathematics 11 will explore the following subject areas.

The Algebra of 3-Space
- visualize planes in three dimensions
- solving systems of equations
- relating the algebra and geometry
- exploring properties of matrices
- using matrices to solve systems
- system applications

Independent Study
- research, present, and learn mathematics independently

Trigonometry
- periodic, sinusoidal functions
- graphs of trigonometric functions, and transformations
- exploring the unit circle and special rotations and relationships
- solving trigonometric equations
- discovering and using identities
- area formulas, law of sines and cosines

Statistics
- sampling
- properties of normal and binomial distributions
- developing and applying confidence intervals
- developing and applying the Chi-square statistic

Advanced Mathematics 11 (advanced, 1 credit)

Course Code:
008145

NOTE: Recommended Prerequisite: Mathematics 10

Students in Advanced Mathematics 11 will explore the following subject areas.

The Algebra of 3-Space
- visualize planes in three dimensions
- finding equations of planes in 3-space
- solving systems of equations
- relating the algebra and geometry
- exploring and deriving properties of matrices
- using matrices to solve systems
- system applications

Independent Study
- research, present, and learn mathematics independently

Trigonometry
- periodic, sinusoidal functions
- graphs of trigonometric functions, and transformations
- exploring the unit circle and special rotations and relationships
- solving trigonometric equations
- discovering and using identities
- exploring radian measure relationships
- usoidal regression
- deriving and applying area formulas, Law of Sines and Cosines

Statistics
- sampling, bias and variability
- properties of normal and binomial distributions
- developing and applying confidence intervals
- developing and applying the Chi-square statistic

Mathematics Foundations 12 (graduation, 1 credit)

Course Code:
008013

NOTE: Recommended Prerequisite: Mathematics Foundations 11 or Mathematics 11

Students in Mathematics Foundations 12 will explore the following subject areas:

Sequences (Patterning)
< explore and develop understanding for three kinds of sequences—arithmetic, power and geometric

Quadratics
< explore the pattern and properties
< explore the graphs
< solving the quadratic in applications

Exponential Growth
< explore the pattern and properties
< explore the graphs
< applying exponential relationships (Compound interest)
< some properties of exponents

Circle Geometry
< synthetic approach
< properties and relationship theorems
< distance and midpoint
< informal proof
< inductive and deductive reasoning

Probability
< fundamental principle of counting
< tree and area diagrams
< simulations
< distinguish between
  – permutations and
  – combinations
< understand factorial notation
< combine permutations and probability

Mathematics 12 (academic, 1 credit)

Course Code:
008073

NOTE: Recommended Prerequisite: Mathematics 11 or Advanced Mathematics 11; however, mathematics at the grade 10 level is sufficient.

Students in Mathematics 12 will explore the following subject areas.

Quadratics
< quadratics as a power sequence
< modelling and exploring patterns
< determining the equation
< exploring the graphs
< developing the quadratic formula
< solving for, and exploring, the roots

Rate of Change
< developing the concept
< average rate of change
< connect to quadratic
< slope of the tangent line
< instantaneous rate of change
< estimate and calculate slopes at different points on the curve

Exponential Growth
< modelling and patterns
< recursiveness
< properties and characteristics
< explore graphs
< instantaneous rate of change
< transformations (adv)
< solve
< exponential/log relationships
< properties of logs

Circle Geometry
< synthetic and algebraic
< inductive to deductive
< distance and midpoint
< proof
< properties and relationship theorems
< algebra of the circle and ellipse
< apply transformations
< connect circle to trigonometry, in parametric mode (adv)

Probability
< fundamental principle of counting
< tree and area diagrams
< conditional probabilities
< simulations
< distinguish between permutations and combinations
< understand factorial notation
< combine permutations, combinations and probability
< Pascal's Triangle and combinations
< binomial expansion and distributions

Advanced Mathematics 12 (advanced, 1 credit)

Course Code:
008015

NOTE: Recommended Prerequisite: Advanced Mathematics 11; however, Mathematics 10 will be sufficient.

Students in Advanced Mathematics 12 will explore the following subject areas.

Quadratics
- quadratics as a power sequence
- modelling and exploring patterns
- determining the equation
- exploring the graphs
- developing the quadratic formula
- solving for the roots
- exploring the nature of the roots

Rate of Change
- developing the concept
- average rate of change
- connect to quadratic
- slope of the tangent line
- instantaneous rate of change
- estimate and calculate slopes at different points on the curve

Exponential Growth
- modelling and patterns
- recursiveness
- properties and characteristics
- explore graphs
- instantaneous rate of change
- transformations (adv)
- solve
- exponential/log relationships
- properties of logs

Circle Geometry
- synthetic and algebraic
- inductive to deductive
- distance and midpoint
- proof
- properties and relationship theorems
- algebra of the circle and ellipse
- apply transformations
- connect circle to trigonometry, in parametric mode (adv)

Probability
- fundamental principle of counting
- tree and area diagrams
- conditional probabilities
- simulations
- distinguish between permutations and combinations
- understand factorial notation
- combine permutations, combinations and probability
- Pascal's Triangle and combinations
- binomial expansion and distributions

Pre-Calculus Mathematics 12 (advanced, 1 credit)

Course Code:
008156

NOTE: Prerequisites: Mathematics 11 or Advanced Mathematics 11, **and** Mathematics 12 or Advanced Mathematics 12.

NOTE: Recommended Prerequisites: Advanced Mathematics 11 **and** Advanced Mathematics 12

Pre-Calculus 12 is designed for students who wish to continue their study of mathematics and science in post-secondary institutions.

Sequences and Series
- recursive relations
- series and sequence notation
- developing and applying algorithms and formulas for series and sequences
- concept of a limit
- convergence and divergence
- applications of limits to series, area under the curve, and rate of change
- proof by mathematical induction

Developing and Applying the Function Toolkit
- combinations and compositions of functions
- polynomial equations and inequalities—patterns and graphs
- slopes and rate of change
- rate of change in terms of limits
- the derivative
- graphs of slope functions
- roots of polynomial equations
- solving polynomial inequalities
- max/min, critical values for sketching

- developing the power rule
- modelling with polynomial functions
- modelling and examining rational functions
- asymptotes
- solving rational equations and operating on rational expressions
- exploring irrational, and absolute value functions
- continuity, limits, and piecewise functions
- modeling with exponential/logarithmic functions
- developing "e" and "ln"

Trigonometry
- using radians with sine X and cosine X
- tangent function
- reciprocal trigonometric functions
- combinations of trigonometric functions
- developing and applying the general rotational matrix
- trigonometric identities, and equations
- inverse trigonometric relations

Complex Numbers
- complex numbers—rectangular form
- operations and graphs with complex numbers
- polar coordinates
- rectangular to polar form
- operations in polar form
- develop and apply De Moivre's Theorem with respect to powers

NOTE: Development of a new course, Calculus 12, will begin in 2003–04. Calculus 12 is currently offered as a locally developed course.

Curriculum Documents

Foundation for the Atlantic Canada Mathematics Curriculum (1996)
Atlantic Canada Mathematics Curriculum Grades Primary–3 (1998)
Atlantic Canada Mathematics Curriculum Grades 4–6 (1999)
Atlantic Canada Mathematics Curriculum Grade Seven (1999)
Atlantic Canada Mathematics Curriculum Grade Eight (1999)
Atlantic Canada Mathematics Curriculum Grade Nine (2000)
Atlantic Canada Mathematics 10 (Implementation Draft, 1999)
Atlantic Canada Mathematics Foundations 10 (Implementation Draft, 1999)
Atlantic Canada Mathematics 11/Advanced Mathematics 11 (Implementation Draft, June 2000)
Atlantic Canada Mathematics Foundations 11 (Implementation Draft, June 2000)
Atlantic Canada Mathematics 12/Advanced Mathematics 12 (Implementation Draft, June 2001)
Atlantic Canada Mathematics Foundations 12 (Implementation Draft, August 2001)
Atlantic Canada Pre-Calculus Mathematics 12 (Implementation Draft, June 2002)
Mathematics: A Teaching Resource, Grade Primary (2003)
Mathematics: A Teaching Resource, Grade One (2003)
Mathematics: A Teaching Resource, Grade Two (2003)
Mathematics: A Teaching Resource, Grade Three (2003)
Mathematics: A Teaching Resource, Grade Four (2003)
Mathematics: A Teaching Resource, Grade Five (2003)
Mathematics: A Teaching Resource, Grade Six (2003)
Mathematics: A Teaching Resource, Grade Seven (2003)
Mathematics: A Teaching Resource, Grade Eight (2003)
Mathematics: A Teaching Resource, Grade Nine (2003)

Mi'kmaw Language

A framework document, *Foundation for Mi'kmaw/Miigmao Language Curriculum*, is currently being developed.

Junior High (Grades 7–9)

Mi'kmaw Language 7

Language reflects culture and defines people. The Mi'kmaw language program provides an opportunity for students to develop an appreciation and greater understanding of Mi'kmaw culture. The Mi'kmaw Language 7 course is developed for non-Mi'kmaw speakers, and is designed for the participation of both Mi'kmaq and non-Mi'kmaq students. This course promotes the development of communication skills in Mi'kmaw. The communicative approach, together with resource-based learning, ensures holistic learning.

Other Languages

German

Senior High (Grades 10–12)

The German program offered to senior high school students is designed to lead to proficiency in the language processes of listening, speaking, reading, and writing. It also offers students the opportunity to learn the fundamentals of German grammar and to acquire some familiarity with German literature and other cultural and historical achievements. A German video series may be used to enhance the cultural and linguistic content of the program. German films, music videos, and songs also contribute to the learning of authentic material. Because of the age, interests, and academic background of the students who select German as a course option, the program usually progresses at a fairly rapid pace. This allows teachers to offer core program materials during the first two years, followed by a selection of paperbacks on literary and cultural topics during the final year.

German 10 (academic, 1 credit)

Course Code:
007017

German 10 offers basic vocabulary and structures with some expansion to permit more interesting content. Core materials are presented in simple dialogues that gradually familiarize students with more complex material. Reading and writing are also introduced at this level.

The direct method is used from the beginning to present vocabulary and sentence structure in familiar situations. Program materials provide a range of high frequency vocabulary and expressions in the context of dialogues. After students have practised these, they make observations about structures they have used. Students are encouraged to learn how the elements of the language relate to each other. Videos, games, and role-playing contribute to the overall enjoyment of learning a foreign language.

German 11 (academic, 1 credit)

Course Code:
007018

While the student continues to develop basic skills in this German course through the appropriate use of program materials, he/she is now encouraged to practise analysing grammatical structure. The reading program, which encourages approximation, fosters good reading habits by helping students grasp meaning from phrases and sentences rather than individual words. The use of the language is always stressed over the ability to quote rules or to translate. Both accuracy and fluency are encouraged in the oral use of the language, with the emphasis being on accuracy in these early stages.

German 12 (academic, 1 credit)

Course Code:
007019

In this German course, core program materials continue to be available to assist in developing the four language processes; however, much of the students' development at this stage focusses on language use. A selection of printed materials designed to stimulate conversation and writing is made available to students. The teacher's judicious use of such materials plus well-chosen projects can result in stimulating learning experiences. While students continue to analyse grammatical structure and to read, write, and speak German, they should now be able to use their skills both for pleasure and information. This level is designed to prepare students for university entrance programs and provide a satisfying experience in language learning.

Latin

Grades 9–12

Latin is offered to students in grades 9 to 12. The program is designed to help students learn to read Latin. At first, the emphasis is placed on becoming familiar with the language. Later, the course focusses on Roman literature and culture. The study of grammatical structure aims to increase the students'

ability to read at a more advanced level. As they become capable of understanding reading selections, they also learn to translate Latin passages into good idiomatic English. Throughout the program, both oral reading of Latin and oral translation of English into Latin is encouraged. As the students progress, they need less stress on grammatical construction and more on reading so that, as their proficiency develops, they may have the opportunity to read Latin authors.

Grade 9

Introductory Latin stresses the acquisition of vocabulary. The pronunciation of new words and phrases and their comprehension help students to enjoy the study of Latin. With respect to verbs, the first to the fourth conjugations are introduced in the present and imperfect indicative active tenses as well as in the imperative active. The agreement of adjectives in the first and second declensions is examined. Nouns of the first, second, and third declensions are studied in the six cases. If time permits, it may be possible to introduce the study of third declension neuter nouns.

Latin 10 (academic, 1 credit)

Course Code:
007021

Latin 10 is a continuation of the grade 9 Latin course. Students continue their study of vocabulary and grammatical constructions while practising reading both for free comprehension and for more accurate translation. At this level, the passive voice is introduced. Students should progress to a study of the present, imperfect, and future indicative passive tenses in fourth conjugation verbs.

Latin 11 (academic, 1 credit)

Course Code:
007022

As the student's vocabulary and knowledge of grammar increases, he/she is able to read with greater ease. Accordingly, extra reading material for both comprehension and translation is made available for use in Latin 11. Testing probably occurs at less frequent intervals and is more comprehensive. Students should be able to progress to the study of deponent and semi-deponent verbs.

Latin 12 (academic, 1 credit)

Course Code:
007023

Latin 12 places less emphasis on grammar and proportionately more on reading. Students should have occasion to participate in projects involving research on topics already discussed in their reading program. Students should also now become more skilled in sight reading and translation. Regular review of materials learned earlier will be very important. Students must have a good understanding of the ablative absolute and indirect statement constructions because of their extensive use in the grade 12 work. Subjunctive mood is also introduced and studied extensively. Progress tests in each unit of work can do much to assist in determining the pace of the program and the areas that need greater attention or emphasis.

Spanish

Senior High (Grades 10–12)

The Spanish program offered at the senior high school level is a three-year program. Although it deals with the fundamentals of Spanish grammar and syntax, the main emphasis is on learning to understand and to speak Spanish. Students spend much time practising the basic patterns of Spanish speech. Students also gain some insight into the cultural achievements of Spain and Latin America: they have opportunities to listen to and sing Spanish songs, read simple Spanish stories and poems, listen to Spanish radio programs, and watch Spanish films. Students are also encouraged to correspond with penpals in Spain and/or Latin America.

Spanish 10 (academic, 1 credit)

Course Code:
007024

In Spanish 10, students learn to understand and to communicate in Spanish with a minimum of grammar. They spend much time acquiring vocabulary and practising essential language patterns.

The greatest emphasis at this level is on comprehension and pronunciation skills so students can learn to hear speech patterns and to imitate them as accurately as possible. After correcting errors and practising pronunciation drills, students progress to the directed dialogues. These provide practice for groups of students in the most frequently used expressions of the language. Songs, classroom visits by Hispanics, slide-show presentations and computer vocabulary games help keep the program interesting and limit the emphasis on grammar.

Spanish 11 (academic, 1 credit)

Course Code:
007025

In Spanish 11, a continuation of Spanish 10, students become familiar with more complex patterns of speech and writing. More emphasis is placed on reading stories, anecdotes, newspaper articles, and magazines. Video presentations are offered when available.

The further use of basic language patterns helps students acquire the ability to manipulate structure and vocabulary. As students become familiar with the structures, they are taught to read the material and adapt it to their own situations. By the end of the year, some students should be able to participate in basic conversations with native speakers of Spanish.

Spanish 12 (academic, 1 credit)

Course Code:
007026

In Spanish 12, a continuation of Spanish 11, more challenging reading selections are introduced in this course. Audio-visual resources are used to help students become accustomed to follow-by-ear Spanish spoken at normal speed. Students also do some original composition work.

Since students should now have acquired a reasonable level of aural/oral skill as described in the two earlier levels of Spanish, more use may now be made of the written form of the language. Composition is now a frequent activity and progresses from a series of simple statements made in response to question clues to more original work. For some students, this can be quite productive; others will not be capable of performing such demanding or complex exercises. The more complex structures and vocabulary recommended in program materials for Spanish 12 will need widely varying methods of presentation. Suggestions in the teacher's key and in the guidelines may assist the teachers in these presentations.

Curriculum Document

Languages Template (Draft 2000)

Personal Development and Career Education

Personal Development and Relationships (PDR)

Junior High (Grades 7–9)

Health/Personal Development and Relationships is part of the core program in grades 7–9 inclusive and is compulsory for all students. An integral part of the total educational process in the junior high grades, Health/Personal Development and Relationships offers all students opportunities to acquire the knowledge, skills, and attitudes required to enhance their quality of life through active, healthy living. Health/Personal Development and Relationships curriculum integrates elements of the life and career planning components of the Comprehensive Guidance and Counselling Program. The Nova Scotia Student Career Portfolio is introduced in grade 7 through Health/Personal Development and Relationships.

New Health/Personal Development and Relationships curriculum has been developed for grades 7–9. The curriculum reflects a coherent, integrated view of learning and teaching consistent with current research, theories, and effective classroom practices. Encompassing health education and career (life/work) education, Health/Personal Development and Relationships builds on the curriculum described in *Foundation for Active Healthy Living: Physical and Health Education Curriculum* (1998). When fully implemented, the new curriculum will supersede Personal Development and Relationships, Grades 7, 8, 9 (1992). The implementation process will begin in 2003–04 with leadership training for grade 7. Health/Personal Development and Relationships 7 curriculum will be introduced in 2003–04 and become a requirement in 2004–05.

Health/Personal Development and Relationships 7

The new grade 7 course builds on the curriculum described in *Health Education: Grades 4–6* (2003).

Health/Personal Development and Relationships curriculum integrates the concepts of personal health management, health promotion, health education, and career (life/work) education. The curriculum engages learners in experiences which require them to take personal responsibility for an active, healthy lifestyle and for educational and career planning.

An important new feature of the course is that it introduces the Nova Scotia Student Career Portfolio which students will continue to develop throughout their secondary years as the Career Portfolio is implemented in successive grades.

Health/Personal Development and Relationships 7 curriculum outcomes are organized into four units:

My Body, My Self
- Self-Management
- Body Function and Growth
- Disease Prevention
- Safety

Lifestyle Choices
- Nutrition and Fitness
- Risk Taking: Influenced and Consequences
- Life/Work Building

Healthy Relationships

Citizenship

The draft curriculum for grades 8 and 9 is described in *Health/Personal Development and Relationships: Grades 7–9* (Draft 2000).

The current program is as follows.

Grade 7

In grade 7, each of the six units aims to develop the student's understanding of the nature of self and its formation, the recognition of feelings and their management, the decision-making process and its application, the development and maintenance of positive relationships, the changes occurring during

puberty, the process of reproduction, sexually transmitted diseases, AIDS, career and educational exploration, disease, substance abuse prevention, environmental awareness, and safety and emergency procedures related to babysitting.

Grade 8

While expanding their understanding of the concepts offered in grade 7, students in the grade 8 program learn about managing feelings, using decision-making processes, developing a positive self-concept, recognizing the role and influence of friends and peers, setting long-range goals based on an understanding of oneself and the world of work, and understanding and respecting oneself and others in relation to sexuality. Students learn about sexual attitudes, sexual expression, and the transmission, treatment, and prevention of sexually transmitted diseases, including AIDS. They learn about nutrition, substance abuse prevention, the handling of emergencies and injuries, and responsible, healthy behaviour relating to consumer awareness.

Grade 9

Students learn about sexual attitudes, sexual expression, and the transmission, treatment, and prevention of sexually transmitted diseases, including AIDS. They learn about nutrition, substance abuse prevention, the handling of emergencies and injuries, and responsible, healthy behaviour relating to consumer awareness.

Senior High (Grades 10–12)

Life/Work Transitions 10 (open, 1 credit or ½ credit)

Course Code:
149057 (10)
149055 (10A)
149056 (10B)

Life/Work Transitions 10 will help students to understand the relationship between their high school studies and a range of post-secondary destinations. The course focusses on examining career options, making choices, exploring the workplace, and developing employability skills. Learning modules for this course include the following: Fundamentals of Life/Work: Planning for a Changing World; Workplace Readiness; A Life/Work Simulation; Employability Portfolio; and Independent or Group Project.

Career and Life Management 11 (open, ½ credit)

Course Code:
149020

Career and Life Management 11 is a compulsory half-credit course. It is intended to help prepare maturing high school students for their future in a rapidly changing society. The course is developed around three units of study: Self-Management, Financial Management, and Career Awareness. The course is being revised one unit at a time. The revised Career Awareness unit will be sent to schools in the fall of 1999.

The course focusses on growth in students' self-knowledge and understanding; strategies for improving students' personal well-being; the development, maintenance, and enhancement of relationships; the realities of life/work; wise management of financial resources; and development of personal action plans leading to living independently and accomplishing personal goals.

Physically Active Lifestyles 11 (open, ½ credit)

Course Code:
149021

Physically Active Lifestyles 11 is a compulsory half-credit course requiring students to engage in a variety of healthful, physically active experiences and to have sound knowledge of the health benefits of these activities. The course has a sound theoretical base upon which the activity component is built.

Successful students are able to
- select and participate in physical activities that will increase personal levels of physical fitness
- make informed decisions about the physical benefits of various activities in high school and in adult life
- demonstrate healthy self-esteem and an understanding of the importance of personal fitness, fair play, and healthy lifestyle habits

< show awareness of the range of facilities and services available to them in their community

By the end of the course, students will have had the opportunity to develop personal responsibility for their own health and physical fitness.

Physically Active Lifestyles 11 is organized on three strands:
– knowing
– doing
– valuing

Physically Active Lifestyles 11 balances theory components and activity components. The six theory components of Physically Active Lifestyle are the following:
– active living
– fair and safe play
– personal fitness
– nutrition
– consumer issues
– stress

The five activity components are the following:
lifetime activities
– team games
– fitness activities
– low-organized games
– co-operative games

Tourism 11 (academic, 1 credit or ½ credit)

Course Code:
098205 (11)
098197 (11A)
098198 (11B)

Tourism 11 gives students an introduction to the tourism industry.

The course offers students opportunities to develop the essential knowledge and skills needed to enter the tourism industry or post-secondary tourism programs. Students develop their skills in communicating, problem solving, organizing and managing information, working with others and working independently, and using and adapting to new technology.

The course focusses on career planning and employability skills and on industry design and development (for example, develop a plan for eco-tourism in South America). Students apply and expand their learning in community or workplace settings through job shadowing, field trips, and work experience. Learning experiences have a strong applied focus with an emphasis on integrating, applying, and reinforcing learning in other courses.

In addition to the compulsory modules Fundamentals of Tourism and Career Exploration in Tourism, other modules may include Transportation, Hospitality, and Attractions; Tourism Attractions, Travel Trade, and Tourism Services; and Tourism Development and Design.

This course may be offered as a full-credit or a half-credit academic course.

Workplace Health and Safety 11 (open, ½ credit)

Course Code:
149104

Workplace Health and Safety 11 is a half-credit course. The course is designed to develop a broad base of knowledge, skills, and attitudes necessary to create a safety culture in the workplace and in the community. The course introduces students to the rights and responsibilities of employees and employers and integrates classroom work with a workplace application. Students will be expected to identify safety risks, to make informed decisions, and to initiate appropriate actions.

Workplace Health and Safety 11 comprises two modules: Fundamentals of Workplace Health and Safety and Workplace Safety Identification Project. This practical course will be particular interest of students enrolled in co-operative education courses that offer opportunities for short-term work/ community placements.

Curriculum Documents

Health/Personal Development and Relationships 7 (2003)
Personal Development and Relationships, Grades 7, 8, 9 (No. 125, 1992)
Health/Personal Development and Relationships, Grades 7–9 (2000)
Physically Active Lifestyles (2003)
Life/Work Transitions 10 (2000)
Tourism 11 (2000)
Workplace Health and Safety 11 (Implementation Draft, February 2003)

Physical Education

The primary aim of the physical education program from primary through the senior high schools in Nova Scotia is to help students participate in and develop a physically active lifestyle that will enable them to experience a more enjoyable quality of life physically, mentally, emotionally, and socially. If students are to be involved in physical activity on a lifelong basis, they must be equipped with the skills, knowledge, and attitudes that will enable them to enjoy and benefit from these activities. For students to acquire the necessary skills, knowledge, and attitudes, teachers must establish a positive educational learning environment inside and outside the classroom, the gymnasium, and the school.

The encouragement of active, healthy living should permeate any comprehensive, well-balanced physical education program. Children need not only develop physical skills but experience a learning environment that values activity and a healthy lifestyle.

Foundation for Active, Healthy Living: Physical and Health Education Curriculum provides a framework on which educators and others in the learning community can base decisions concerning learning experiences, instructional techniques, and assessment strategies, using curriculum outcomes as the reference point. This framework provides a coherent, integrated view of learning and teaching physical and health education that reflects current research, theories, and classroom practice.

Elementary (Primary–Grade 6)

In grades primary to 3, students should be helped to develop creativity, self-expression, and communication through movement and play. Students should have opportunities to develop perceptual motor skills, the prerequisites to more complex motor co-ordination, through rhythmic activities and dramatic play.

The five major areas of the physical education program at this level are basic movement, educational gymnastics, dance, skill development, and alternative environments. Personal and social development is also a major focus. All encourage the development of physical skills, creativity, self-expression, communication, rhythmic activities, and dramatic play. This program forms a part of an integrated curriculum that should involve other aspects of the elementary school program in planned activities or experiences.

The physical education program in grades 4–6 progresses naturally from the physical education program in the early grades to include helping students extend, refine, and apply gross and fine motor skills in the areas of active living, educational gymnastics, skill development, dance, and alternative environment activities. Play and movement experiences continue to be important as children continue to mature, and personal and social development will continue to be a focus.

Junior High (Grades 7–9)

The physical education program at the junior high level should help students understand that physical fitness and physical activity are necessary for a healthy body. Students should have opportunities to develop and maintain cardiovascular endurance, flexibility, muscular strength, and endurance.

Students should understand that they can adapt and refine their motor skills as they participate in specific physical activities. The major areas of the physical education program at this level are active living, skill application in games and activities, outdoor activities, educational gymnastics, and dance. Students should develop a positive attitude towards physical activity and enjoy participating in the instructional, intramural, and interscholastic components of physical education.

Senior High (Grades 10–12)

New curriculum for physical education in grades 10–12 has been developed. Piloting will begin in

2003–04. It is expected that 2004–05 will be the first year of implementation.

At the senior high school level, the elective physical education program emphasizes the need for students to change sedentary lifestyles. The program in the high school should help students understand that physical activity is necessary to maintain physiological efficiency.

During their final years of public education, students should have the opportunity to evaluate their own personal fitness levels and be able to interpret any implications of the physical fitness test results. Having done this, they should be able, with the assistance of the physical education teacher, to construct and use a physical fitness program to maintain and develop desirable levels of physical fitness. They should also be able to develop fundamental skills in and knowledge of specific activities that will enable them to enjoy leisure-time pursuits outside the school.

The new curriculum is framed on eight program strands:

- Personal Fitness
- Personal and Group Safety
- Sport ScienceSport Experience
- Leadership
- Outdoor Pursuits
- Sport and Society
- Recreation and Leisure

The new curriculum will also introduce students to the broad spectrum of employment opportunities in physical education and related fields.

The current physical education program comprises the following courses.

Physical Education 10 (open, 1 credit)

Course Code:
101028

In schools that offer three sequential years of high school physical education, Physical Education 10 should consist primarily of helping students refine skills for lifelong recreational activities and of providing students with leadership opportunities.

NOTE: New curriculum for Physical Education 10 is being developed, and pilots will begin in 2003–04.

Physical Education 11 (open, 1 credit)

Course Code:
101030

This physical education course places greater emphasis on lifetime recreation activities, with a balance between indoor and outdoor activities. Physical fitness and the development of leadership skills continue as priorities.

Physical Education 12 (open, 1 credit)

Course Code:
101032

This physical education course concentrates on fitness opportunities, outdoor pursuits, and individual and dual games. Many opportunities should be offered to learn and practise leadership skills.

Curriculum Documents

Foundation for Active, Healthy Living: Physical and Health Education Curriculum (1998)
Physical Education Curriculum, Grades Primary–6 (1998)
Physical Education Curriculum, Grades 7–9 (1999)
Physical Education Safety Guidelines, Grades P–12 (2002)

Science

The aim of science education, as defined in *Foundation for the Atlantic Canada Science Curriculum*, is to develop scientific literacy.

Scientific literacy is an evolving combination of the science-related attitudes, skills, and knowledge students need to develop inquiry, problem-solving, and decision-making abilities; to become lifelong learners; and to maintain a sense of wonder about the world around them. To develop scientific literacy, students require diverse learning experiences that provide opportunities to explore, analyse, evaluate, synthesize, appreciate, and understand the interrelationships among science, technology, society, and the environment that will affect their personal lives, their careers, and their future.

Learning experiences should provide opportunities for students to use writing as a powerful tool for extending learning. Students, at all grade levels, should be encouraged to use writing to speculate, theorize, summarize, discover connections, describe processes, express understandings, raise questions, and make sense of new information using their own language as a step to the language of science. Science logs are forms for such expressive and reflective writing. Purposeful note making is also an intrinsic part of learning in science that can help students better record, organize, and understand information from a variety of sources. The process of creating webs, maps, charts, tables, graphs, drawing, and diagrams to represent data and results helps students learn and also provides them with useful study tools.

Learning experiences in science should also provide abundant opportunities for students to communicate their findings and understandings to others—both formally and informally—using a variety of forms for a range of purposes and audiences. Such experiences should encourage students to use effective ways of recording and conveying information and ideas and to use the vocabulary of science in expressing their understandings. It is through opportunities to talk and write about the concepts they need to learn that students come to better understand both the concepts and related vocabulary.

Learners need explicit instruction in and demonstration of the strategies they need to develop and apply in reading, viewing, interpreting, and using a range of science texts for various purposes. Similarly, learners need instruction in and demonstration of the strategies they need to develop and apply in selecting, constructing, and using various forms for communicating in science.

Elementary (Primary–Grade 6)

The elementary science program is a hands-on program that encourages children to learn by manipulating materials, observing first hand, and talking and writing about what they are learning. This active, experiential approach promotes the importance of building and expanding on the natural curiosity of children and recognizes the valuable experiences that children bring to the classroom. This approach seeks to nurture in children a lifelong desire to experience, question, and investigate. It provides students with opportunities to engage in problem solving that may involve creating models, designing and building inventions, or reaching a decision that is defensible and personally acceptable.

In this program, students learn how to conduct investigations by defining problems, seeking answers, making plans, and evaluating their own and others' thinking. They develop positive attitudes to science and scientific concepts. They begin the process of becoming scientifically literate and technologically competent individuals.

Foundation for the Atlantic Canada Science Curriculum articulates the following key-stage outcomes:

By the end of grade 3, students will be expected to

- observe and identify living and nonliving things in their environment
- classify on the basis of appearance (colour, size, texture, shape) and of similarities and differences (plants/animals, living/non-living, push/pull, roll/slide)

- demonstrate numeracy, including counting, comparing, estimating, ordering, and creating and using simple graphs and data tables
- measure length, volume, temperature, and time
- communicate through talk and writing and by drawing diagrams, simple charts, and graphs
- draw simple inferences from experimental work and field observations

By the end of grade 6, students will be expected to
- make quantitative and qualitative observations and record them in charts and graphs or in writing
- classify collected living or preserved materials using a systemic procedure
- use numbers to measure, to compare, and to make graphs and calculations related to their experiments
- measure length, area, volume, liquid volume, time, angles, and temperature
- communicate effectively in talk and writing and by preparing diagrams, drawings, graphs, charts, and data tables
- effectively read directions for doing experiments and understand suitable resource books
- experiment by following directions
- design simple experiments so that outcomes can be predicted and verified, explain the results observed, interpret data logically, recognize and control variables, and make suggestions for further experiments

NOTE: A new Atlantic Canada elementary science program has been developed based on the pan-Canadian *Common Framework of Science Learning Outcomes K to 12* (1997). The process of implementing new curriculum for elementary grades began in 2002–2003 in grades primary and 1. New curriculum for grade 2 science will be implemented in 2003–2004.

It is expected that a minimum of 90 minutes per week in grades primary and 1 will be allotted to instruction and learning experiences centred on science.

Grade Primary

Exploring the World with Our Senses
Exploring Sand and Water with Our Senses
Exploring Moving Things with Our Senses
Exploring the World of Living Things with Our Senses

Grade 1

Materials, Objects, and Our Senses
Needs and Characteristics of Living Things
Daily and Seasonal Changes

Grade 2

Animal Growth and Changes
Liquids and Solids
Relative Position and Motion
Air and Water in the Environment

The following are the recommended topics within the current elementary program for grades 3–6.

Grades 3–4

Unit 1 — Plants
2 — Identifying Substances (Mystery Powders)
3 — Measurement and Motion
4 — Rocks and Soil
5 — Living Things and Environments
6 — Heat
7 — Sound
8 — Magnets

Grades 5–6

Unit 1 — Communities of Living Things
2 — Life Cycles of Plants and Animals
3 — Chemical and Physical Change
4 — Electricity
5 — Changes in the Earth
6 — Weather
7 — Weight, Volume, Buoyancy
8 — Communication
9 — Forces and Their Effects
10 — The Solar System and Beyond

It is anticipated that implementation of new science curriculum for grades 3 and 4 will begin in 2004–2005 and for grades 5 and 6 in 2005–2006. The new curriculum for these grades will be organized around the following topics:

Grade 3

Plant Growth and Changes
Materials and Structures
Invisible Forces
Exploring Soils

Grade 4

Habitats and Communities
Light
Sound
Rocks, Minerals, and Erosion

Grade 5

Meeting Basic Needs and Maintaining a Healthy Body
Properties and Changes of Materials
Forces and Simple Machines
Weather

Grade 6

Diversity of Life
Electricity
Flight
Space

Junior High (Grades 7–9)

The new junior high science program provides students with significant hands-on experiences relating to science, technology, society, and the environment. Students also benefit from opportunities to participate in co-curricular events such as science fairs that provide public recognition of their projects and enable students to gain hands-on experience while engaging in challenging assignments. Outdoor learning environments and field trips, where appropriate, provide valuable learning experiences and expanded opportunities for students to engage actively in doing science.

At the junior high level, students become familiar with concepts in life, physical, earth, and space science.

Science 7

Interactions within Ecosystems

Ecosystems, such as forests, croplands, rivers, lakes, estuaries, and oceans, are inhabited by different organisms that are well adapted to their environment. Each ecosystem is biologically and physically different, yet all act in the same way. This unit's focus is decision making and inquiry and is based on students' collections and analyses of data and information from field trips, investigations, and other sources. Students can explore and investigate a range of relationships with a familiar environment while determining the factors that threaten the existence of a particular local habitat of an organism.

Earth's Crust

Knowledge of the Earth is rapidly growing as new methods and technologies are developed to study the components and dynamics of the Earth's crust. As students develop an understanding of the dynamics of geological systems and events, they are better able to explain and make connections between the theories of Earth science and their own experiences with local geology.

An inquiry-based approach to this unit will permit the students to investigate many of the properties of the Earth to which they have had some exposure. The most recent and widely accepted theory that is used to explain many crustal features and phenomena such as continental drift, is formally introduced and should be approached using crustal phenomena that is both relevant and motivating to the student. The context for this unit could be the rocks, minerals, and evidence of geological processes in the local environment of the student.

Heat

Heat is a form of energy that is part of students' lives and the life of their communities. Students should have an opportunity to explore the properties of heat and the ways they are related to the measurement of temperature. The particle theory and the kinetic molecular theory help students explain their observations and understand both the relationship between heat and temperature and the concept of heat capacity on a qualitative level.

The focus of this unit is on problem solving and design technology. Students, for example, will plan and design air thermometers as well as qualitatively evaluate the heat capacities of some common materials.

Mixtures and Solutions

In this unit, students will explore and investigate the similarities and differences between general mixtures and solutions as well as a variety of ways to separate the component parts of these materials. Students will not be expected to distinguish and differentiate suspensions, emulsions, and colloids at this level.

The focus in this unit is on inquiry, with an emphasis on making observations. Students should have opportunities to make and examine various types of solutions (solid in a liquid, liquid in a solid, liquid in a liquid, etc.) and devise activities for separating them based on their physical properties. The concept development of the particle model of matter with regard to pure substances and mixtures is one of the key components of this unit. Exploring common and easily made mixtures in the students' environment should be the focus of this unit.

Science 8

Water Systems on Earth

Over two thirds of the Earth's surface is covered by oceans and freshwater features. A study of the Earth's marine and freshwater systems provides opportunity for students to learn about the relationship between the geomorphology of the Earth and the dynamics of oceans and freshwater basins. As students develop these understandings, they should be able to explain how these geological features have developed and to describe their impact on society.

Students have opportunities to investigate how the oceans and the shorelines interact; what relationships exist between ocean currents, wind and climates; and how these abiotic factors impact upon life in and around the oceans.

Optics

Applications using the principles of light have resulted in devices that have improved scientific techniques and contributed to the quality of life. Students have opportunities to experience and observe the properties of light using hands-on activities. Opportunities and activities designed to investigate and explore the properties of light provide the basis for more in-depth experimentation with materials in order to investigate reflection and refraction of light.

Fluids

Fluids, including air and water, are essential in most industrial processes. Students explore the properties of fluids, including viscosity and density, and explain them using the particle theory. They also have an opportunity to understand the buoyant forces acting on floating, submerged, and sunken objects. The focus of this unit is on the inquiry process. Students design and carry out activities based on fluids.

Cells, Tissues, Organs, and Systems

Students will continue to study the different body systems but not in minute detail. From activities, students should start to appreciate a correlation between healthful living and healthy systems. This is the first time that students deal with the systems as an integrated whole.

The focus of this unit of study is on decision making. Using the context of healthy/non-healthy lifestyle choices and the ways these choices impact on cells, tissues, organs, and systems, students develop basic understandings and appreciation of their interconnections and of ways to use these understandings in making wise choices with regard to their health.

Science 9

Space Exploration

The study of space exploration provides opportunities for students to develop an understanding of the origin, evolution, and components of the solar system and the universe. As students become more aware of the solar system and the universe and understand them better, they develop a greater appreciation of how they function.

The focus of this unit is inquiry. In addition to learning more about space and what is in it, students develop an understanding of how we construct knowledge about the solar system and the rest of the universe.

Reproduction

Students examine the fundamental processes of reproduction, heredity, and the transmission of traits from one living generation to the next. Students investigate and debate current developments and uses of gene manipulation and therapy.

The focus of this unit is on inquiry. The unit is subdivided into three sub-units: cellular processes, asexual and sexual reproduction, and genetic changes.

Characteristics of Electricity

Technologies based on the principles of electricity are an important part of the students' world. An understanding of the essentials of electrostatics and electric circuits will enable students to connect their learning to everyday applications. Investigations help students to learn the laws of electrostatic charges and to study some features and properties of electrostatics and electrical circuits.

The focus of this unit is inquiry and the design process with reference to technology and systems with which the students are familiar.

Atoms and Elements

Building on past explorations using various substances and the particle model of matter, students should become familiar with the basic constituents of atoms and molecules, with chemical symbols themselves, and with common elements and compounds.

This unit is primarily focussed on inquiry. Students should engage in activities that illustrate how knowledge and theories related to atoms and elements have been developed. This unit provides an excellent opportunity to distinguish between laws and theories in science.

Senior High (Grades 10–12)

Science 10 (academic, 1 credit)

Course Code:
011249 (10)
011246 (10A)
011247 (10B)

The senior high science program builds on a foundational science course, Science 10. It is strongly recommended that **all** students take Science 10 as a prerequisite to more specialized study in science(s) in grades 11 and 12.

Science 10 comprises four compulsory units, each requiring 25–30 hours of instructional time:

Sustainability of Ecosystems

Due to a change in environmental attitudes, today's students are much more aware of the fragile nature of the environment. Despite technological advances that allow more efficient use of natural resources/systems, the drive to be economically competitive puts stress on the delicate environmental balance.

Many outcomes can be addressed by a decision-making focus that moves students toward a more sophisticated level of global thinking and that allow them to explore the concept of sustainability. Activities in the unit also provide an opportunity to focus on Observation/Inquiry.

Chemical Reactions

The study of chemical reactions provides students with an opportunity to apply their understanding of atomic structure to how chemicals react. By naming and writing common ionic and molecular compounds and by balancing a variety of equation types, students make connections to a variety of chemical examples in everyday life.

This unit emphasizes the social and environmental contexts of science and technology associated with air and water pollution, and focusses on observation and inquiry. The laboratory research components of this unit provide opportunities for decision making as well as design technology.

Weather Dynamics

Global climate and local weather patterns are affected by many factors and have many consequences. This unit asks students to consider questions such as: "What decisions do we face due to weather conditions?"; "How are our lives affected by changing weather conditions (short term) and changing climate (long term)?"; and "What causes these weather patterns?"

This unit focusses on decision making and provides opportunities for observation and inquiry as well as problem solving and design technology. Sections in the unit require students to consider heat energy and its transfer, energy exchange within and between systems, observation of weather data, and the impact of weather forecasting.

Motion

The concept of motion allows students to investigate and develop their interest in sports that are part of their daily lives. Students have opportunities not only to investigate the principles of kinematics but also to apply kinematics to areas of individual interest.

It is recommended that the unit on motion focus on inquiry and problem solving. Students examine the relationships among observable variables that affect motion and conduct design investigations. By applying mathematical and conceptual models to qualitative and quantitative data collected, students can graphically represent motion to provide a visual representation of aspects of velocity and acceleration.

Agriculture/Agrifood 11 (academic, 1 credit)

Course Code:
011224 (11)
011225 (11A)
011226 (11B)

Agriculture/Agrifood 11 will be available for implementation in 2003–2004. Agriculture/Agrifood 11 meets the second science credit requirement for graduation. The course may be offered as a full credit (four modules) or as two half-credits (each comprising two modules).

For Agriculture/Agrifood 11, students are required to take Module 1: Fundamentals and a total of three of the optional Modules 2–6:

Module 1: Fundamentals (compulsory)
Module 2: Primary Production Systems
Module 3: Support Systems
Module 4: Beyond the Farm Gate
Module 5: Foods
Module 6: Project

Agriculture/Agrifood 11A comprises the compulsory Module 1: Fundamentals and one of the optional Modules 2–6. Agriculture/Agrifood 11B comprises an additional two modules selected from Modules 2–6.

Biology 11 and Biology 12 (academic, 1 credit each)

Course Code:
011153 (11)
011156 (12)

NOTE: Recommended prerequisites: Science 10 for Biology 11, and Biology 11 for Biology 12

Biology 11 and Biology 12 emphasize the science themes: change, diversity, energy, equilibrium, matter, and systems. These themes allow students to examine the connections within the science program and to understand ways in which individual sections of the program relate to the big ideas in science.

In addition to developing students' understanding of fundamental science concepts and principles, Biology 11 and Biology 12 refine students' understanding of the nature of science and technology and the interaction between biology and technology. Students develop their awareness of the impact of biology and associated technology on society and of the limitations of the biological sciences, science in general, and technology in solving societal problems.

Biology 11 comprises four units of study:

Unit 1: Matter and Energy for Life

Cells are introduced as the basic units of life. This unit investigates the role of cell structures in matter exchange and energy flow and the impact of technology on our understanding of cell structure and processes.

Unit 2: Biodiversity

The vast diversity of living things necessitates an organized system for their classification and study. This unit provides a thorough investigation and overview of life's unity and diversity within the biosphere.

Unit 3: Maintaining Dynamic Equilibrium I

All living things struggle to maintain an internal balance in response to the constant pressure of external phenomena. This unit investigates the role of various systems and the influence of behaviour in the regulation of homeostasis.

Unit 4: Interactions among Living Things

Ecosystems involve complex interactions between biotic and abiotic factors. This unit investigates the role of these factors on population dynamics and the flow of energy within ecological systems.

Biology 12 comprises four units of study:

Unit 1: Maintaining Dynamic Equilibrium II

All living organisms struggle to maintain an internal balance in response to the constant pressure of external phenomena. This unit investigates the role of chemical and electrochemical systems in the regulation of homeostasis. The impact of disease, medical technology, and drugs will also be explored.

Unit 2: Reproduction and Development

Reproduction is essential for the continuity of a species. This unit investigates the reproductive process at the cellular and multicellular levels. The influence of reproductive technologies will also be explored.

Unit 3: Genetic Continuity

Much of the structure and function of organisms is determined by their genetic material. This unit investigates the structure and replication of DNA, its transcription to RNA, and its translation into proteins. Discussion of how genes flow from one generation to the next serves as an introduction to basic genetics. The effects of mutation, genetic disease, and genetic engineering will also be explored.

Unit 4: Evolution, Change and Diversity

Science attempts to provide an explanation for the origin and evolution of life on earth. This unit investigates evidence that supports the theory of evolution and offers an analysis of evolutionary mechanisms.

Advanced Biology 11 (advanced, 1 credit)

Course Code:
011155

NOTE: Recommended Prerequisite: Science 10

In Advanced Biology 11, students are expected to engage in opportunities to construct major concepts in biology and to demonstrate and apply these concepts in new situations. The content topics for this course should parallel those in Biology 11, but the curriculum should be more investigative in nature and provide for greater depth of treatment. Students should also have more opportunities for independent study of certain biology topics.

Advanced Biology 12 (advanced, 1 credit)

Course Code:
011011

NOTE: Recommended Prerequisite: Biology 11 or Advanced Biology 11

Although Advanced Biology 12 is a logical follow-up to Advanced Biology 11, the latter is not considered a prerequisite. The core and optional topics for Advanced Biology 12 are the same as those for Biology 12.

Students enrolled in this course will have multiple opportunities for independent study of topics in depth, and will be required to relate the ideas and processes of biological sciences to those of the physical sciences and the mathematical disciplines.

It is mandatory for students in Advanced Biology 12 to complete a significant independent research project which relies, for the most part, upon experimental investigations.

Chemistry 11 and Chemistry 12 (academic, 1 credit each)

Course Code:
011149 (11)
011151 (12)

NOTE: Recommended Prerequisites: Science 10, Mathematics 10 for Chemistry 11, and Chemistry 11 for Chemistry 12

Chemistry is the study of the composition, properties, and interactions of matter. Chemical knowledge advances within a societal context, and it is important for students to realize that the principles and laws of chemistry are the results of extensive scientific observations and analysis and that, although science is a powerful tool, it also has limitations.

The chemistry program emphasizes the science themes: change, diversity, energy, equilibrium, matter, and systems. These themes provide a means for showing the connections within the science program and provide a framework for teachers to show students how individual sections of the program relate to the big ideas in science.

The program encourages students to participate in lifelong learning about chemistry and to appreciate chemistry as a scientific endeavour with practical impact on their lives and on society as a whole.

Chemistry requires students to read and view a range of print and visual text and to use a number of technical writing formats. The chemistry program must include explicit instruction in required technical reading and writing skills and provide multiple opportunities for students to hone their skills in reading and writing technical text.

The chemistry program comprises two courses: Chemistry 11 builds on the fundamental attitudes, skills, and knowledge acquired in Science 10. Chemistry 12 provides a more in-depth exploration of various topics intended for students pursuing post-secondary chemistry.

Chemistry 11 comprises three units of study:

Stoichiometry

Chemistry is a qualitative and quantitative science. Students have generally been studying chemistry in a qualitative sense. In this introduction to the quantitative aspect of chemistry, students will examine stoichiometry. Stoichiometry is the mole to mole relationship in a balanced chemical equation.

From Structures to Properties

All matter is held together by chemical bonding. Bonding is discussed in detail in this unit. The different forces of attraction involved in matter and how it influences their properties will be studied. Questions such as "Why does water have the formula H_2O?" and "Why does NaCl have such a high melting point?" will be addressed.

Organic Chemistry

Organic chemistry is the study of molecular compounds of carbon. In this unit, the bonding capacity of carbon, hydrogen, oxygen, nitrogen, and the halogens will be reviewed, as will the potential for these atoms to form covalent compounds. The vastness of the number of organic molecules will be explored using isomers and polymers as examples. With so many different organic molecules to

consider, students will come to appreciate the need for a systematic naming scheme. Students will be given opportunities to discover how the classification of organic molecules into different family groups depends upon the type of bonding and atoms present. Students will also examine ways in which these factors influence the reactivity of representative molecules from each of the different families.

Chemistry 12 offers students multiple learning opportunities to connect chemistry to technology, society and the environment. Instructional time must be made available for both reading and writing chemistry. There are a broad range of strategies that students can use for different reading tasks. Learners need explicit instruction and demonstration of the strategies they need to develop and apply in reading, viewing, interpreting, and using a range of chemistry and science texts for various purposes. This will develop their skills in communicating in science.

Learning experiences in chemistry should also provide abundant opportunities for students to communicate their findings and understandings to others, both formally and informally. Such experiences should encourage students to use effective ways records and conveying information and ideas and to use a vocabulary of chemistry and science in expressing their understandings.

Chemistry 12 requires that laboratory work be an integral part of the course. There are multiple ways of reporting data and these provide students with useful study tools. Science logs are helpful for students to use writing to speculate, theorize, summarize, discover connections, describe processes, raise questions, and make sense of new information using their own language as a step in the language of science.

Scientific literacy must be incorporated throughout Chemistry 12. Inquiry, problem solving, and decision making are integral to learning and to connections in the students lives. These process allow students to engage in their learning in meaningful ways.

Chemistry 12 comprises four units of study:

Thermochemistry

Thermochemistry includes energy changes that occur with physical and chemical processes. Thermochemistry focusses on energy in various systems. Skills involving planning, recording, analysing, and evaluating energy changes will be developed. Fuels for energy provide the context for student research and projects. These fuels could include energy for industry, energy from foods, or any other relevant context. This unit will help students to develop an interest in global energy issues and to generate possible solutions to a problem. Doing lab work and performing calculations allow students to discuss their evidence and problem solving in order to consolidate their understanding of energy change.

From Solutions to Kinetics to Equilibrium

Many factors affect the rate of chemical reactions. This unit focusses on developing students' understanding that reactions can be described as dynamic equilibrium systems by criteria, equations, calculations, concentrations, and experiments within the context of everyday phenomena. The context might be hemoglobin at high altitudes, ammonia in the Haber process, $CaCO_3$ in caves, acids corroding metals, sodium carbonate in the Solvay process, or any other relevant context.

Problem-solving skills are used throughout this unit. Identifying variables and performing experiments to test equilibrium shifts and reaction rates are valuable learning experiences.

Acids and Bases

Acids and bases have an effect on aqueous systems. Acid-base systems involve proton transfer and are described quantitatively. Students will be encouraged to value the role of precise observation and careful experimentation while looking at safe handling, storage, and disposal of chemicals.

Electrochemistry

This unit builds on concepts dealing with electric forces, matter, and energy in chemical change, and quantitative relationships in chemical changes. Energy is involved in electrochemical changes. Problem solving and decision making in this unit will be helpful in creating an interest in the application of technology. Students investigate, through laboratory work and relevant problems, the ways in which science and technology advanced in relation to each other.

Advanced Chemistry 11 (advanced, 1 credit)

Course Code:
011015

NOTE: Recommended Prerequisite: Science 10 and Mathematics 10

Advanced Chemistry 11 takes an investigative approach to studying chemistry. Students are expected to engage in opportunities to develop major concepts in chemistry and to demonstrate and apply these concepts in new and novel contexts. The content topics for this course should parallel those of Chemistry 11 but provide for greater depth of treatment.

Advanced Chemistry 12 (advanced, 1 credit)

Course Code:
011017

NOTE: Recommended Prerequisites: Chemistry 11 or Advanced Chemistry 11 and Advanced Mathematics 11

Advanced Chemistry 12 is a continuation of the Advanced Chemistry 11 course. In addition to the topics from the Chemistry 12 course, it is mandatory that students complete a significant independent research project that relies, for the most part, on experimental investigations.

Food Science 12 (academic, 1 credit)

Course Code:
11026

Food Science 12 comprises four modules:

Food Constituents

This module investigates the constituents of food, the physical and chemical properties of the constituents, and applies the knowledge of food science through a project. Lab work is essential in this unit, as it is throughout the course.

Preservation Factors

In this module, deteriorative factors and their controls are investigated. Preservation is examined. High temperature (cooking, blanching, pasteurization, sterilization) and low temperature preservation (chilling, freezing, cold storage) are investigated.

Food Quality and Commodities

Subjective and objective quality measurements, sampling, and analysis are examined to evaluate assurance, measurement, and control. Commodities are investigated through laboratory experiments. Production of the commodities with emphasis on quality retention and production techniques is discussed.

Food Packaging

This module looks at food ingredients, labels, and packaging. The key to food product development and design is the use of sensory analysis. Systematic product development is examined and analysed.

Geology 12 (academic, 1 credit)

Course Code:
01121 (12)
011212 (12A)
011213 (12B)

NOTE: Geology 12 has been developed to replace both Canadian Geology 12 (011023) and Earth Science 12 (011024). Canadian Geology 12 and Earth Science 12 will not be offered after 2002–2003.

Geology 12 is an academic credit and is eligible to meet the second science graduation requirement. This course may also be offered as two half credits—Geology 12A and Geology 12B. The course has been designed to engage and meet the needs of a wide range of learners.

Geology 12 comprises six units, each requiring approximately 18 hours:

The Nature of Geology: You and Geology, The Geologists, and Earth Systems
Earth Materials: Crystallography, Mineralogy, and Petrology
Internal Processes: Earth's Interior, Plate Tectonics, and Forces and Structures
Surface Processes: Weathering, Erosion, and Deposition
Historical Geology: Geological Principles, The Fossil Record, and Geological Time
Environmental Geology: Geological Hazards, Resource Issues, and Waste Management

Geology 12A comprises units one to three.
Geology 12B comprises units four to six.

Oceans 11 (academic, 1 credit or ½ credit)

Course Code:
011214 (11)
011158 (11A)
011200 (11B)

Oceans 11 satisfies the second science credit requirement for high school graduation.

Oceans 11 offers students the opportunity to explore aspects of global and local oceanography and current ocean-related issues. The course is designed to be flexible and meet the needs and interests of Nova Scotian students by connecting the study of oceans with local economic and community interests.

Oceans 11 consists of four 25–30 hour modules. Successful completion of four modules is required to earn one science credit. Successful completion of two modules is required to earn one half science credit.

Learning modules include the following:

Module 1: Structure and Motion
Module 2: Marine Biome
Module 3: Coastal Zones
Module 4: Aquaculture
Module 5: Fisheries
Module 6: Navigation

For Oceans 11, the following modules are compulsory: Structure and Motion, Marine Biome, and Coastal Zones. Depending on the students, teachers may wish to group the students to do three remaining modules or two of the modules or one module for the class. For Oceans 11A, Structure and Motion, and Marine Biome is compulsory. For Oceans 11B, Coastal Zones is compulsory.

Physics 11 and Physics 12 (academic, 1 credit each)

Course Code:
011150 (11)
011152 (12)

NOTE: Prerequisites: Science 10 and Mathematics 10 for Physics 11; Mathematics 11 and Physics 11 or Advanced Physics 11 for Physics 12

NOTE: Effective September 2003, it is expected that students enrolling in Physics 11 will have successfully completed **both** Science 10 **and** Mathematics 10. Exceptions may be made only at the principal's discretion under special circumstances. It is expected that students enrolling in Physics 12 will have successfully completed Physics 11.

Physics is the branch of knowledge that studies the processes and structures of the natural world at the most fundamental level. Objects as small as atoms and as large as galaxies are investigated in an attempt to understand the underlying principles and structures. Physics is both descriptive and predictive: it can often explain how something works and

predict how its related technologies can be improved.

The program is designed to challenge and engage students with a wide range of backgrounds to understand concepts and to apply their knowledge to new situations. The program, through its many hands-on, intellectually stimulating experiences, enables students to see connections between physics and other sciences, and to see how physical principles underlie many of the seemingly unrelated facets of their everyday world.

Physics requires students to read and view a range of print and visual text and to use a number of technical writing formats, including explanations of problems and presentation of arguments. The physics program must include explicit instruction in required technical reading and writing skills and provide multiple opportunities for students to hone their skills in reading and writing technical text.

Physics 11 consists of four units of study:

Unit 1: Kinematics
Unit 2: Dynamics
Unit 3: Energy and Momentum
Unit 4: Waves

In Unit 1, students explore how forces, velocity, and acceleration can be measured and represented as vectors.

In Unit 2, students explore the relationship among force, mass, and acceleration, and the interaction of forces between two objects. The relationships among work, time, and power are analysed quantitatively.

In Unit 3, students explore momentum as it relates to an object's motion. Students determine which laws of conservation of energy or momentum are best used to solve real life situations involving collisions.

In Unit 4, students explore the common characteristics of mechanical, sound, and light waves, and explain and predict the behaviour of waves.

Physics 12 consists of four units of study:

Unit 1: Force, Motion, Work, and Energy
Unit 2: Fields
Unit 3: Waves and Modern Physics
Unit 4: Radioactivity

Force, Motion, Work, and Energy

At the beginning of the twenty-first century, we still live in a Newtonian world. Students should relate their study of mechanics to everyday occurrences. They should come to understand that the engineered world in which we live is built on the principles of classical physics. From skateboards to space shuttles, the cause and effect of motion are understood and applied. Activities and investigations of everyday events that are generated by class discussion should be encouraged.

Fields

Students have had experience with contact forces. Forces that exert influence through space without contact are more difficult to visualize.

Technological exploitation of our knowledge of electricity is expanding at an astonishing rate. It is important to present the historical context of discovery and development in this area. This historical context provides students with opportunities to explore the interconnectedness of science and technology.

Waves and Modern Physics

The time period between 1890 and 1930 saw the development of concepts which are still referred to as "modern physics." At the same time, research was being carried out on the nature of electromagnetic phenomena and the nature of light. It was in this period that these branches of research became linked.

This historical context provides students with a means to connect developments which occurred independently and seem, at first, to be unrelated. In this unit, students will develop an integrated view of the achievements that form the essence of twentieth century physics.

Radioactivity

Students explore the full range of types of radiation, including natural and artificial sources, and assess the risks and benefits of exposure to each of them.

Advanced Physics 11 (advanced, 1 credit)

Course Code:
011020

NOTE: Prerequisites: Science 10 and Mathematics 10

Advanced Physics 11 takes an investigative approach to studying physics. Students are expected to engage in opportunities to develop major concepts in physics and to demonstrate and apply these concepts in new and novel contexts. The content topics for this course should parallel those of Physics 11 but should provide for greater depth of treatment.

Advanced Physics 12 (advanced, 1 credit)

Course Code:
011022

NOTE: Recommended Prerequisites: Physics 11 or Advanced Physics 11; Mathematics 11 or Advanced Mathematics 11

Advanced Physics 12 is a continuation of the Advanced Physics 11 course. In addition to exploring the topics from Physics 12, students will engage in a major individual research project.

Curriculum Documents

Foundation for the Atlantic Canada Science Curriculum (1998)
Atlantic Canada Science Curriculum, Grade Primary (Implementation Draft, 2002)
Atlantic Canada Science Curriculum: Grade 1 (Implementation Draft, 2002)
Atlantic Canada Science Curriculum: Grade 7 (2001)
Atlantic Canada Science Curriculum: Grade 8 (2001)
Atlantic Canada Science Curriculum: Grade 9 (2001)
Atlantic Canada Science Curriculum: Science 10 (Implementation Draft, June 2000)
Agriculture/Agrifood 11 (Implementation Draft, 2003)
Atlantic Canada Science Curriculum: Biology 11 (Implementation Draft, 2000)
Atlantic Canada Science Curriculum: Biology 12 (Implementation Draft, 2000)
Atlantic Canada Science Curriculum: Chemistry 11 (Implementation Draft, 2000)
Atlantic Canada Science Curriculum: Chemistry 12 (Implementation Draft, 2000)
Atlantic Canada Science Curriculum: Physics 11 and Physics 12 (2002)
Physics 11 and Physics 12: A Teaching Resource (2003)
Oceans 11 (2003)
Oceans 11: A Teaching Resource, Volume 1 (2003)
Food Science 12 (Implementation Draft, 2003)
Geology 12 (Implementation Draft, 2002)
Science Safety Guidelines, Grades Primary–12 (Draft, October 2002)
A Closer Look: Using Microscopes, Science Grades 3–6 (2003)
A Closer Look: Using Microscopes, Science Grades 7 and 8 (2003)
Secondary Science: A Teaching Resource (1999)

Social Studies

Foundation for the Atlantic Canada Social Studies Curriculum (1999) provides the framework for social studies curriculum development in Nova Scotia.

An effective social studies curriculum prepares students to achieve all essential graduation learnings. In particular, social studies, more than any other curriculum area, is vital in developing citizenship.

Social studies embodies the main principles of democracy, such as freedom, equality, human dignity, justice, rule of law, and civic rights and responsibilities. The social studies curriculum promotes students' growth as individuals and as citizens of Canada and of an increasingly interdependent world. It provides opportunities for students to explore multiple approaches that may be used to analyse and interpret their own world and the world of others.

Social studies presents unique and particular ways for students to view the interrelationships among Earth, its people, and its systems. The social studies curriculum integrates concepts, processes, and ways of thinking drawn from the diverse disciplines of humanities, social sciences, and pure sciences. The social studies curriculum provides the multidisciplinary lens through which students examine issues affecting their lives from personal, academic, pluralistic, and global perspectives.

Elementary (Primary–Grade 6)

NOTE: New curriculum for social studies grades primary to 6 is currently under development. The implementation schedule for new curriculum will be announced at a later date.

The elementary level social studies program combines local, national, and global components and provides both for studies of those elements familiar to the students—home, school, neighbourhood, community—and for studies of other homes, neighbourhoods, communities, and regions in Canada and elsewhere. A multi-spiral approach provides the national and global aspects needed to help students understand the interdependence of all peoples.

The program is based on the concepts of identity, socialization, environment, change, resources, human needs, institutions, interdependence, values, and decision making. Four basic groups of attitudes—self-awareness, respect for others, awareness and acceptance of uncertainty, and respect for the natural environment—are a part of the total social studies program at the elementary level.

As well as being geographically and historically oriented, the program includes aspects of sociology, anthropology, economics, and political science.

The work of each grade level is divided into a number of units with objectives, suggested activities, and resources identified for the various units.

The themes, with their unit titles, are as follows:

Primary: Orientation

Unit I — Who am I?
Unit II — What is my school like?
Unit III — Who are the members of a family and how do they help each other?
Unit IV — What is a neighborhood?
Unit V — Why do we need rules?

Grade 1: Families

Unit I — What is a family?
Unit II — What are basic and human needs and how are they satisfied?
Unit III — What is my school like?
Unit IV — Who are the people in my neighborhood and other neighborhoods?
Unit V — Why are rules needed?

Grade 2: Community/Communities

Unit I — What is a community?
Unit II — How do people in a community earn their living?

Unit III — How do people "belong" to a community?
Unit IV — How do people and communities celebrate special days/holidays?
Unit V — How do communities depend on each other?

Grade 3: Canadian Communities

Unit I — What is a community? (continuation)
Unit II — What are the basic map and globe skills?
Unit III — How are Canadian communities similar to and different from each other?

Grade 4: People and Their Changing Environment

Unit I — How do we learn about the past?
Unit II — How have some communities changed?
Unit III — How do changes in technology change society?
Unit IV — How have transportation and communication changed through time?
Unit V — How have roles and values changed over the years?
Unit VI — What is pollution, and how does it affect us? (optional)

Grade 5: Canada and the World's People

Unit I — What are some of the main physical features and political divisions of Canada and the world?
Unit II — Who were some of the explorers and where did their explorations take them?
Unit III — What is life like in selected areas of the world?
Unit IV — What are some of the factors which influence population?
Unit V — What are some of the ethnic/cultural groups in Canada?

Grade 6: Nova Scotia (and Atlantic Canada)

Unit I — Who were the first known inhabitants, and how did they use the environment to meet their needs?
Unit II — Who were the early European explorers of Atlantic Canada, and why were they important to the Europeans?
Unit III — Why did European people settle and fortify Nova Scotia (and Acadia)?
Unit IV — What is meant by multiculturalism, and why is it of interest and value to us in Nova Scotia?
Unit V — How has the physical environment influenced the way people lived and are living?
Unit VI — What is meant by "service industry," and how important are these industries to Nova Scotia?
Unit VII — What is meant by "government," and why do we have government? (optional)

Development of the units calls for integration with language arts, music, physical education, health education, science, mathematics, and visual arts. The use of community resource people for many units, especially for units involving the culture of ethnic groups, is recommended.

Assessment of student learning includes observation of individual and group work. Observation may be made of classroom projects, field trips, research, discussion, teacher-made tests, and reports that include writing, drawing, or making model forms.

Junior High (Grades 7–9)

NOTE: New curriculum for grade 7 and 8 social studies is currently under development. The implementation schedule will be announced at a later date.

The grade 7 and 8 social studies program integrates history and geography to show how settings and people interacted to create the story of Canada's past. It also examines the form and function of municipal and provincial government in Canada.

An integrated social studies program is offered in grade 9 through the Atlantic Canada in the Global Community course. The political science unit in this course completes the civics strand with an examination of government at the federal level.

Throughout the junior high social studies program, students should expand their knowledge of facts, understanding of concepts, and ability to think and reason. They should have opportunities to examine attitudes and values. Students should leave junior high with a clearer understanding of the different perspectives the social studies disciplines use to examine society. They should understand the relationships among these disciplines. They should understand the process of cause and effect, the role of and sources for research, and the distinction between fact and opinion.

The social studies program shares, with all other programs, the responsibility of helping students to develop their critical thinking skills and to develop as readers and writers.

The program is an important means of educating students to respect the dignity, rights, and humanity of all persons and of promoting the principles for anti-racism, multiculturalism, interculturalism, and gender equity.

The social studies program also encourages students to consider stewardship of the natural environment as a personal responsibility.

Social Studies 7

The geographical setting for social studies in grade 7 is the northern hemisphere, with the principal focus being on the North Atlantic and eastern North America. The historical component encompasses the period stretching from the peopling of North America to the Canadian Rebellions of 1837. The civics unit deals with municipal government.

The units in this program include the following: Introduction to Social Studies; Geographical Skills to Study North America; Early Peoples in North America; The Far North; The Arrival of the Europeans—Early Explorers; Early French Settlements; St. Lawrence-Ottawa Lowland; Early English Settlements; When Empires Collide; British in North America After 1763; The Great Lakes Lowlands; The War of 1812 (optional); The Great Migration; The Near North; Municipal Government; and Responsible Government.

Social Studies 8

In grade 8 social studies, the geographical component expands to include the entire North American continent. The historical content embraces Canada from 1837 to the present. Government at the provincial level is the focus of the civics unit.

The 13 units in this program include the following: Broadening the Horizon; The Evolution of Responsible Government; Confederation; Western Expansion; Agricultural Development in the West; World War I; Between the Wars; Industrialization and Urbanization; World War II and Its Aftermath; Provincial Government; Key Political Events and Personalities (beginning 1949); Becoming a Multicultural Nation; Selected Economic, Social and Cultural Changes (optional).

Atlantic Canada in the Global Community (Grade 9)

This grade 9 social studies course enables students to study their region in a global context. Beginning with an examination of the physical landscape, the course focusses on the human landscape of Atlantic Canada and global connections.

There are five interrelated units:
- Physical Setting
- Culture
- Economics
- Technology
- Interdependence

This course offers multiple opportunities for students to examine their region in terms of physical landscape, culture and cultural diversity, economic activity and technology, and the effects of technological change. Interdependence is the key unifying concept.

A new curriculum supplement, Community Economic Development, has been developed and in-serviced in partnership with the Department of

Economic Development. The curriculum document provides students with the opportunity to become actively involved in their political, economic, social, and cultural futures. Therefore, the focus of this curriculum is to

- inquire about the causes of economic transition and how they affect communities in Nova Scotia and Atlantic Canada
- examine the history, principles, and accomplishments of CED and the possibilities that exist when it is used to address economic transition as well as the social, political, cultural, and environmental challenges that accompany it
- help all students to recognize that their knowledge, skills, perceptions, and attitudes equip them to assume active citizenship roles in their communities, now and in the future
- promote student involvement in community decision-making that pursues a future that is socially, economically, culturally, and environmentally sustainable.

Senior High (Grades 10–12)

Graduation requirements for students registering in grade 10 for the first time in September 2001 and thereafter include the following:

- 1 Canadian History credit: African Canadian Studies 11, Canadian History 11, Études acadiennes 11, Gaelic Studies 11, Histoire du Canada 11, and Mi'kmaq Studies 10 are all eligible to meet this new graduation requirement
- 1 global studies credit: global geography or global history

At the senior high level, students have the opportunity to pursue in depth the following disciplines: history, geography, economics, sociology, political science, and law.

In the senior high social studies program, students must be given the opportunity to expand their body of knowledge and to continue to develop their repertoire of skills. Through the independent use of libraries and of print, photographic, electronic, and other media, students should be given the opportunity to engage in research that supplements classroom learning experiences.

Historical study at the senior high level requires students to practise the skills of research and inquiry; to acquire a body of knowledge pertinent to a particular area of study; to appreciate the nature of evidence and the role of perspective; to understand cause and effect and the relationships among major historical periods, events, situations and conditions; and to understand the role of the past in the present.

The study of senior high geography addresses the nature of the planet and the forces that did and do shape it; the human settlement of the planet and the patterns that settlement reveals; the interaction of humanity and the environment; and the methods and resources geographers use to study these. Senior high geography is founded upon the themes of modern geography: location, region, pattern, spatial interaction, human/environment interaction, and culture. It is also founded upon the skills of geography, which include data collection, processing, and interpretation.

African Canadian Studies 11 (academic, 1 credit)

Course Code:
012218

The African Canadian Studies course focusses on the history of people of African descent in Canada. Presented in a challenging, dynamic, and interesting manner, the course is divided into four basic units:

Unit 1

Part A: Pre-investigation
What is Culture?
How is it an Afrocentric Course?
Part B: Pre-colonial African Societies

Unit 2

Transcontinental Movement: Evolution and Change of the African Diaspora

Unit 3

Pursuit of Political and Economic Empowerment

Unit 4

Part A: Local Community Study
Part B: Challenges Facing Today's Youth

This course is designed to equip students with a sound understanding of the global experience, local achievements, and contributions of Canadian people of African descent. It uses the disciplines of geography, history, economics, political science, and sociology to highlight the experiences, struggles, and life stories of people of African descent who have contributed to world history.

Designed to be inclusive, African Canadian Studies 11 will appeal to learners of all ability levels and ethnic and racial backgrounds.

African Canadian Studies 11 is an eligible credit to meet the Canadian history requirement.

Canadian History 11 (academic, 1 credit)

Course Code:
012330

Canadian History 11 is organized around five continuing or persistent questions in Canada's history. These are questions of current concerns that have deep historical roots that previous generations of Canadians have had to address. Their efforts have shaped the development of Canada and its identity. These questions form the basis for five of the six units in the course: Globalization, Development, Sovereignty, Governance, and Justice. The sixth unit, Independent Study, engages students in a specific piece of historical research.

Historiography and the historical method are central to this course in its examination of Canada's history from the first peoples in North America to the present. Key topics studied through these approaches include, but are not limited to, First Nations, Colonialism, Confederation, the World Wars, Free Trade, Constitutional Issues, Canada's Role in the Global Community, Industrialization, Human Rights Issues, and Immigration/Migration.

Economics 11 (academic, 1 credit)

Course Code:
012023

This course in Canadian economics begins with a general study of the economy of the local community, leading into such selected aspects as important private firms, important occupational groups, local unions, three levels of government, government spending, taxation; and expanding to the provincial and regional economy to consider primary, secondary, and tertiary industries. Distribution of wealth and power, labor movement, free enterprise, crown corporations, taxation, and economic ties with the world are also considered as parts of the Canadian economy. Various economic principles, issues, and theories that affect the lives of students are included.

Economics 12 (academic, 1 credit)

Course Code:
012024

This course in national/international economics is an extension of Economics 11. It provides a deeper study of selected economics issues as well as consideration of certain theories. The unit on microeconomics considers such topics as demand and supply, product differentiation, production, and markets. Macroeconomics considers national accounts; economic indicators and government policy; money, banking, and finance; and economic growth. There are also three optional units: history of economic ideas; international economy; and comparative economics.

Gaelic Studies 11 (academic, 1 credit or ½ credit)

Course Code:
012340 (11)
012341 (11 A)
012342 (11B)

Gaelic Studies 11 is an eligible credit to meet the Canadian history requirement. Gaelic Studies 11 may be offered as a fill credit or as half-credit options. Gaelic Studies 11A comprises Modules 1, 2, and 5, Gaelic Studies 11B comprises Modules 3, 4, and 6.

Gaelic Studies 11 affirms the language, history, tradition, and arts of Nova Scotia and other Canadian Gaels, and explores the continuing influence of the Gaelic culture on life in local, national and global contexts. Learning experiences in this course will enable all students to develop knowledge and understanding of and respect for the unique nature of the Gaelic culture. In students of Gaelic ancestry, it will foster a positive self image and an understanding of their identity and roots.

Gaelic Studies 11 provides opportunities for students to experience the diversity of expression of many aspects of Gaelic culture and to recognize the values inherent in Gaelic community life. It presents unique opportunities to take learning beyond the classroom to include community and industry. The course focuses on history and identity, oral tradition and literature, and the arts of the Gaels and provides opportunities for students to pursue a specific area of interest or strength through project work.

Gaelic Studies comprises six modules:

Module 1: Roots
Module 2: Settlement, Growth, and Identity
Module 3: Economic Military and Political Life
Module 4: Independent Study
Module 5: Oral Tradition and Literature
Module 6: Gaelic Arts

Geography 10 (academic, 1 credit)

Course Code:
012223

This grade 10 geography course deals with physical geography. This course has two sections. Part A, Graphic Environment, helps students develop an understanding of and practical experience in constructing, using, and interpreting some of the image, map and graphing skills geographers commonly use to analyse the environment. Part B, The Physical Environment, deals with the various land, ocean, and atmospheric processes that are at work sculpting the face of the earth. These processes illustrate that Earth's ecosystems are in delicate balance and require careful stewardship.

Eight units comprise the Physical Geography course:

Part A

Unit 1: Data Collection
Unit 2: Data Processing and Representation
Unit 3: Data Interpretation and Utilization

Part B

Unit 1: Geographic Perspective
Unit 2: Land Environment
Unit 3: Ocean Environment
Unit 4: Atmospheric Environment
Unit 5: A Small Blue Planet

Geography of Asia 10 (academic, 1 credit)

Course Code:
012016

This course, which focusses on the geography of Asia, enables students to develop an understanding of the human and physical landscape of Asia by applying geographic skills, concepts, and perspectives. Units include (the former) Soviet Union and Mongolia; Southwest Asia (Middle East); South Asia (Indian Subcontinent); East Asia (China and Japan); and Southeast Asia.

Geography 11 (academic, 1 credit)

Course Code:
012019

NOTE: Geography 11 is currently under review and development.

Geography 11 covers contemporary Canadian geography with its regional and cultural diversities and includes a systematic examination of such general characteristics as Canada's vast area, its northern character, its climate, and its economic development. In the first half of the course, Canada is studied both in the context of its continental North American setting and through its component regions and sub-regions. The second half provides a thematic treatment of such topics as pollution, urbanization, resource development, changing technology, and rural life.

Geography of Canada 11 (graduation, 1 credit)

Course Code:
012020

This course, which focusses on the geography of Canada, is designed to give students a sense of Canada's wide variety of natural and cultural landscapes, while at the same time giving them an understanding of the Canadian identity that makes Canadians different from people in other areas.

Regional units to study are the following: The Atlantic Region; The Great Lakes—St. Lawrence Lowlands; The Canadian Shield; The Continental Interior; Western Mountains and Coasts; and The Far North. Local field work and research are an important part of this course.

Geography 12 (academic, 1 credit)

Course Code:
012021

The aim of this course, which focusses on settlement geography, is to increase the student's understanding of the spatial organization of urban and rural settlement and settlement systems and the ways these evolve, both inside and outside Canada. The course also shows students how order exists in human-environment relationships; how historical developments have influenced settlement patterns; and what impact urbanization processes have had and continue to have upon rural areas. Units include Urban Settlement, Rural Settlement, Rural-Urban Interaction, and Community Analysis and Planning, with special emphasis given to Atlantic Canada.

It is strongly recommended that the students have prior knowledge of both physical geography and the geography of Canada before studying this course.

Global Geography 12 (academic, 1 credit)

Course Code:
012209

This course, which focusses on global geography, explores major themes that help us to understand the nature and origins of complex humanity/environment relationships in the contemporary world.

Guided by the fundamental themes and skills of modern geography, students pursue this exploration through eight compulsory units: Our Fragile Planet: A Geographical Perspective; Perilous Processes: Our Planet at Risk; The Peopled Planet: Standing Room Only?; Feeding the Planet: Food for Thought; Global Resources: The Good Earth; Global Factory: For Whose Benefit?; Urbanization: A Mixed Blessing; and The Future Planet: Under New Management.

By using geographic skills and techniques, learning and applying a body of skills and techniques, learning and applying a body of geographic knowledge, and developing their own planet management awareness, students become informed global geography students. The process of becoming informed enables students to propose reasonable answers to the question upon which Nova Scotia's global studies courses are built—"How did the world arrive at its current state at the close of the twentieth century?"

History 10 (academic, 1 credit)

Course Code:
012008

This course, which focusses on ancient/medieval history, allows students to develop an understanding of the concept of civilization by examining the origins of civilization and comparing some civilizations that have contributed to the nature of the modern world.

The course has six broad chronological divisions: The Evolution of Human Beings; The Birth of Civilizations (including Mesopotamia, Egypt, China, Africa, and the Americas); Greece; Rome; The Middle Ages; and The Renaissance and Reformation. Each of these divisions can be considered from a number of points of view, including geography, archaeology, society, language, religion, and politics. Major themes could be developed spanning the broad chronological period (for example, agriculture, development of government, religion, and revolutions).

History 11 (academic, 1 credit)

Course Code:
012009

This course, which focusses on the history of Western Europe, examines the emergence of Europe on the international scene. Starting with the age of European exploration and discovery, students trace the rise and fall of European powers in the seventeenth, eighteenth, nineteenth, and twentieth centuries. Themes include absolutism, nationalism, imperialism, colonialism, and industrialization. Key concepts include the notions of progress, power, and rights of the state, the group, and the individual. All of these emerge from the examination of key events, conditions, and individuals whose impact was significant in the emergence of the modern western world.

Global History 12 (academic, 1 credit)

Course Code:
012169

This course, which focusses on global history, examines major themes in the history of the post-World War II era. Students examine these themes in five compulsory units: East–West: The Role of Superpower in the Post-World War II Era; North–South: The Origins and Consequences of Economic Disparity; The Pursuit of Justice; Societal and Technological Change; and Acknowledging Global Interdependence: The Legacy of the Twentieth Century. In their study of these units, students examine history from three perspectives—social, economic, and political—and use the research and inquiry skills of the historian.

Throughout their studies, students address the focus question of the course: "Has humanity emerged into a world whose actions are governed more by interdependence at the global level than by dependence or independence at the national or international level?" They also propose reasonable answers to the question upon which Nova Scotia's global studies courses are built: "How did the world arrive at its current state at the close of the twentieth century?"

Law 12 (academic, 1 credit)

Course Code:
012028

The Canadian law course is designed to provide students with a knowledge of law and its function in society and the opportunity to develop skills and attitudes that will enable them to understand the process of law. Topics include the Canadian legal system, crimes and crime control, injuries and wrongs, human rights, property rights, promises and agreements, business relations, family relations, and courts and trials.

Mi'kmaw Studies 10 (academic, 1 credit)

Course Code:
012226

Mi'kmaw Studies 10 provides students with an understanding of historical and contemporary issues in Mi'kmaq society.

The course considers events, trends, and traditions in the history of the Mi'kmaq. The course incorporates and issues-based approach and considers broad concepts such as governance, culture, justice, education, and spirituality.

Students analyse historical and contemporary issues in Mi'kmaq society, which enable them to achieve a greater understanding of and respect for Mi'kmaw contributions to society.

Mi'kmaw Studies 10 is an eligible credit to meet the Canadian history graduation requirement.

Political Science 12 (academic, 1 credit)

Course Code:
012093

This political science course is a three-part course, with Part 3 being optional. Part 1 develops an understanding of the concept of politics, Part 2 develops an understanding of Canadian politics in its many aspects, and Part 3 involves a comparative study of democratic and other systems of government.

Sociology 12 (open, 1 credit)

Course Code:
012027

This sociology course is designed to give an understanding of the basic aspects of sociology. It allows students to examine Canadian sociological issues and to participate in a local community/ sociological project. Canadian sociological issues that might be considered include the family, students and schools, poverty, minority groups, women in society, labor and management, conflict, crime in Canada, punishment and rehabilitation, and the future.

Curriculum Documents

Foundation for the Atlantic Canada Social Studies Curriculum (1999)
Atlantic Canada Social Studies Curriculum, Atlantic Canada in the Global Community: Grade 9 (1998)
Atlantic Canada Social Studies Curriculum, Community Economic Development (2000)
Mi'kmaq Studies 10 (Implementation Draft, 2002)
African Canadian Studies 11 (Implementation Draft, 2002)
Canadian History 11 (Implementation Draft, 2002)
Gaelic Studies 11 (Implementation Draft, 2002)
Global History 12 (reprinted, 2003)
Geography 10 (No. 143, 1996)
Global Geography 12 (reprinted, 2003)

Technology-Related Education

Information Technologies

NOTE: All technology-related courses are currently under review. While schools may continue to offer the prescribed programs, they must recognize an evolution toward something new.

The Department of Education's *Vision and Learning Outcomes for the Integration of Information Technologies within the Nova Scotia Public School Programs* describes what students will be expected to know and be able to do as a result of the integration of information technologies within curriculum programs. The document is currently available on the EDnet Web site in both static and interactive forms. Illustrative examples reveal how students can and do accomplish the learning outcomes. Illustrative examples assist teachers as they integrate information technologies, including computers, for significant learning purposes and practices.

Elementary (Primary–Grade 6)

Learners at the elementary level should have access to the computer as a tool for expressing themselves in writing, for illustrating, and for developing thinking. The intention is not to offer a separate computer unit or course at the elementary level. Rather, a computer should be among the tools available to a learner to use when appropriate.

Junior High (Grades 7–9)

Learners in the junior high years should begin to formalize their experiences and understanding of microcomputer technologies. In these years, students are expected to

- become confident and knowledgeable users of a microcomputer and its peripheral components
- continue using a microcomputer for written communication
- use the microcomputer to store, retrieve, and manipulate information
- develop an understanding of the issues surrounding evolving technologies

Computer education is not a subject area like mathematics or science or language arts. Rather, it concerns the acquisition and development of a collection of skills, attitudes, and knowledge that together enhance the learning and teaching of the full curriculum.

Reinforcement of the early experiences and extensions of these experiences could take place in grade 8. Before the end of grade 8, students should be introduced to the use of a database system using curriculum-based data and information. By grade 9, students should be able to produce written work using word processing and presentation software.

Senior High (Grades 10–12)

Computer-Related Studies 12 (academic, 1 credit)

Course Code:
100038

Computer-Related Studies 12 is designed for students who have an interest in the study of computers and a desire to maximize the use of technology in their lives. This course may assist students planning to pursue post-secondary studies in this and related areas. The focus of the course is on students developing the ability to formulate and solve real-world problems using a structured problem-solving approach. Students develop this ability by using applications programs and by creating programs using a structured programming language.

Technology Education

Foundation for Atlantic Canada Technology Education Curriculum provides the framework for future development of technology education courses.

The focus of technology education curriculum is the development of students' technological literacy, capability, and responsibility. Its primary strategy is to engage them in the design, development,

management, and evaluation of technological systems as solutions to problems.

Technological literacy is the ability to use technological systems, manage technological activities, and make informed decisions about technological issues.

Technological capability is an expression of ability and understanding through considered and planned action that combines technical skill and technological knowledge to achieve a desired result.

Technological responsibility requires an understanding of the consequences of technological activity and a willingness to take appropriate action.

Technology education engages students directly in constructing technological solutions to everyday, real-world problems.

Technology education employs a wide variety of hands-on activities. Students employ a wide range of technological resources and processes to design, fabricate, and test solutions to familiar and unfamiliar problems.

Technology education provides students with an understanding of the fundamental technological principles of the systems that are employed in all modern technologies, and in turn enables them to relate workplace technologies to daily life. It enables students to develop specific technical skills in the context of real-world problems and relate these skills to careers.

The program provides students with both an orientation to technology and activities to develop technical skills. As a result of the program, students will demonstrate a broad set of intellectual and social abilities needed to solve problems and make value judgments about using technology in their own world. Through this approach, students will develop creativity, reasoning, and the ability both to communicate and make decisions.

Teachers should encourage students to undertake meaningful activities that are firmly based in the world beyond school. In addition to satisfying the students' urge to produce a finished product, the activities should challenge students to develop their thinking.

Technology activities should lead students to investigate three major questions:
- Why has technology developed as it has?
- How was it developed?
- What happens as technology is developed?

Research and development, trouble shooting, simulation, and constructing all involve problem solving. Students who can solve problems will become independent learners, thinkers, and decision makers. The career and working environments of the twenty-first century will require people who are skilful, innovative, able to adapt to change, and who know how to tackle problems.

At all levels of the technology education program, a variety of problem-solving opportunities should be developed involving different contexts and technologies. Students should be involved in producing models to illustrate and facilitate their problem solving. It is important that students work primarily with wood, metal, and plastics, integrating these materials where possible. Different technologies and systems should also be involved as students pursue various needs and ideas. Each activity should give students the opportunity to create something that works, that is aesthetically pleasing, and that serves a real need in their world.

Junior High (Grades 7–9)

Features of the junior high program are as follows:
- design-and-make tasks and technology-learning activities for each grade level
- a compulsory sketch-and-draw unit that includes computer-aided drafting

The guidelines provide suggestions to help teachers design their own design-and-make tasks and technology-learning activities within the outcomes framework.

The junior high guidelines provide detailed information on the following topics:
- aims of the Technology Education Program
- problem solving
- safety
- students with special needs

- gender and multicultural approaches
- possibilities for integrating with other disciplines
- student progress assessment
- resources

Senior High (Grades 10–12)

Exploring Technology 10 (open, 1 credit)

Course Code:
006035

This technology course provides students with hands-on activities and introduces them to a broad spectrum of technological concepts. By the end of the course, successful students are able to use a range of technical applications, integrate technological with other academic disciplines, create devices and systems to satisfy their needs, explain how technology affects society, and use technology in problem-solving situations.

Construction Technology 10 (open, 1 credit)

Course Code:
006036

The construction technology course helps develop in students an understanding of construction technology, of its applications related to the basic human need for shelter, of the organization of construction, and of construction's impacts on society. The course offers technology-learning activities involving a simulated dome construction project, the computer simulation of the construction of a city, and the design problem-solving simulation of the construction of a fixed link between Nova Scotia and Prince Edward Island. Materials are also provided about leading architects and designers in Canadian construction as well as ideas for correlating the course with other subject areas. The course outline also includes ideas for a student enterprise.

Design 11 (academic, 1 credit or ½ credit)

Course Code:
327021 (11)
327016 (11A)
327017 (11B)

Design 11 involves students in using communications and information technologies to develop solutions to design problems and to conduct inquiries into design issues. Students work independently and as part of design teams to explore design in a range of practical contexts. Modules for this course include the following: Design Fundamentals; Communications Design; The Built Environment; Product Design; and Design Team or Independent Project.

Electrotechnologies 11 (academic, 1 credit or ½ credit)

Course Code:
327022 (11)
327018 (11A)
327019 (11B)

Electrotechnologies 11 enables students to gain an understanding of electrical and electronic systems and subsystems. Students explore a broad range of technology applications, for example, electric motors, appliances, audio, and video devices, sensors, control devices, security systems, and control systems. Modules for this course include the following: Electro-assembly; Power Distribution and Conversion; Control Systems; Digital Technology; and Design Team or Independent Project.

Energy, Power, and Transportation 11 (open, 1 credit)

Course Code:
006041

By the end of the energy, power, and transportation course, students are able to demonstrate in a variety of ways an understanding of different forms of energy, the ways energy is harnessed, and the application of energy to modern day transportation systems.

Communications Technology 11 and Communications Technology 12 (open, 1 credit each)

Course Code:
006037 (11)
006038 (12)

NOTE: New curriculum for Communications Technology 11 and Communications Technology 12 is being developed.

By the end of each communications technology course, students are able to demonstrate in a variety of ways knowledge and applications of different modes of communication, including audio, visual, graphic, electronic, and computer communications.

Production Technology 11 and Production Technology 12 (open, 1 credit each)

Course Code:
006039 (11)
006040(12)

By the end of each production technology course, students are able to demonstrate the process required to create a product using a variety of materials and methods. Entrepreneurship is an integral part of the grade 12 course.

Film and Video Production 12 (academic, 1 credit)

Course Code:
327023 (12)
327024 (12A)
327025 (12B)

Film and Video Production 12 involves students in the production of a film or video. Students work independently and as part of a production team to explore roles in the film industry, develop skills required in production roles, develop a critical awareness of historical and cultural aspects of film, and work through the process of producing a film or video from script development to final edit. Modules for this course include Fundamentals, Production Team Skills, Film Industry Disciplines and Careers, and Film Development and Production.

Students may work toward an arts credit or a technology credit in Film and Video Production 12.

Curriculum Documents

Foundation for Atlantic Canada Technology Education Curriculum (2001)
Vision for the Integration of Information Technologies within the Nova Scotia Public School Program (available only on the Internet and from Learning Resources and Technology)
Communications Technology (No. 147, 1996)
Production Technology (No. 148, 1996)
Exploring Technology (No. 130, 1992)
Construction Technology (No. 127, 1991)
Energy, Power, and Transportation (No. 146, 1996)
Design 11 (2000)
Electrotechnologies 11 (2000)
Film and Video Production 12 (Implementation Draft, 2003)

Publications and Resources

Publications and Resources

NOTE: See also the Department of Education Web site at <http://www.EDnet.ns.ca for> downloadable files and an on-line ordering system for obtaining hard copies of these documents.

Authorized Learning Resources

Authorized Learning Resources is an on-line searchable database of resources authorized for use in Nova Scotia classrooms. All schools in Nova Scotia have access to purchase resources through this on-line system.

Additional information regarding the credit allocation system, 5% credit allocation, cash purchases, pricing, and up-to-date catalogues in PDF format can be found on the Web site at https://w3apps.EDnet.ns.ca/nssbb.

Curriculum Documents

The Atlantic Canada Framework for Essential Graduation Learnings in Schools
Foundation for Grade Primary Program (April 1999)
Current and Emerging Research on Successful Junior High Schools: The Middle Years (September 1997)
Engaging with Text across the Curriculum: Grades 3–6 (2003)

Arts Education

Foundation for the Atlantic Canada Arts Education Curriculum (2001)
Music Primary–6 (2002)
Junior High School Music (No. 124, 1992)
Music 10–12 (Draft) (2000)
Senior High School Music (Academic) (No. 115, 1990)
Senior High School Music (Instrumental) (No. 116, 1990)

Senior High School Music (Choral) (No. 117, 1990)
Canadian Music Studies (CMU 331) (1985)
Drama 10 and Drama 11 (1999)
Dance 11 (1999)
Design 11 (2000)
Cultural Industries 11 (2000)
Visual Arts Primary–6 (2000)
Film and Video Production 12, (Implementation Draft, 2003)
ArtsLinks: Active Young Readers and the Arts (2002)

Business Education

Business Personnel Development/Academic 12 (No. 119, 1990)
Business Management 12 (Implementation Draft, 2003)

Community-Based Education

Community-Based Education: Policy Guidelines (1999)

Core French

Français de base à l'élémentaire, 4e à la 6e année (1998)
Français de base au secondaire 1er cycle, 7e à la 9e année (1999)
Français de base au secondaire 2e cycle, 10e, 11e, 12e année (1999)

English Language Arts

Foundation for the Atlantic Canada English Language Arts Curriculum (1996)
ArtsLinks: Active Young Readers and the Arts (2002)
The Supportive Classroom: Literacy for All (1991)
English Language Arts, Grades Primary–3 (1997)
English Language Arts, Grades 4–6 (1997)
English Language Arts, Grades 7–9 (1997)
English Language Arts, Grades 10–12 (1997)
Canadian Literature 12 (1998)
Technical Reading and Writing 11 (Draft, 2002)

Entrepreneurship

Entrepreneurship 12 (2003)

Family Studies

We regret that there currently are no curriculum documents to support the family studies program.

French Immersion

Programme d'études de français immersion - maternelle à la 3e année (No 166, document provisoire 1998)
Programme d'études de français immersion - 3e à la 6e année (No 167, document provisoire 1998)
Français-7e á la 9e année - immersion tardine (2003)
Français - immersion - 10e à la 12e année (2003)

Gaelic

Gaelic 10 (Pilot Draft, 2000)

Health Education

Foundation for Active, Healthy Living: Physical and Health Education Curriculum (1998)
Health Education, Grades 4–6 (2003)
Health/Personal Development and Relationships, Grades 7–9 (2000)
Health/Personal Development and Relationships 7 (2003)

Languages

Languages Template (Draft, 2000)

Mathematics

Foundation for the Atlantic Canada Mathematics Curriculum (1996)
Atlantic Canada Mathematics Curriculum Grades Primary–3 (1998)
Atlantic Canada Mathematics Curriculum Grades 4–6 (1999)
Atlantic Canada Mathematics Curriculum Grade Seven (1999)
Atlantic Canada Mathematics Curriculum Grade Eight (1999)
Atlantic Canada Mathematics Curriculum Grade Nine (2000)
Atlantic Canada Mathematics 10 (Implementation Draft, 1999)
Atlantic Canada Mathematics Foundations 10 (Implementation Draft, 1999)
Atlantic Canada Mathematics 11/Advanced Mathematics 11 (Implementation Draft, 2000)
Atlantic Canada Mathematics Foundations 11 (Implementation Draft, June 2000)
Atlantic Canada Mathematics 12/Advanced Mathematics 12 (Implementation Draft, June 2001)
Atlantic Canada Mathematics Foundations 12 (Implementation Draft, August 2001)
Atlantic Canada Pre-Calculus Mathematics 12 (Implementation Draft, June 2002)
Mathematics: A Teaching Resource, Grade Primary (2003)
Mathematics: A Teaching Resource, Grade One (2003)
Mathematics: A Teaching Resource, Grade Two (2003)
Mathematics: A Teaching Resource, Grade Three (2003)
Mathematics: A Teaching Resource, Grade Four (2003)
Mathematics: A Teaching Resource, Grade Five (2003)
Mathematics: A Teaching Resource, Grade Six (2003)
Mathematics: A Teaching Resource, Grade Seven (2003)
Mathematics: A Teaching Resource, Grade Eight (2003)
Mathematics: A Teaching Resource, Grade Nine (2003)

Personal Development and Career Education

Personal Development and Relationships, Grades 7, 8, 9 (No. 125, 1992)
Health/Personal Development and Relationships, Grades 7–9 (2000)
Physically Active Lifestyles 11 (2003)
Life/Work Transitions 10 (2000)
Tourism 11 (2000)
Workplace Health and Safety 11 (Implementation Draft, February 2003)

Physical Education

Foundation for Active, Healthy Living: Physical and Health Education Curriculum (1998)
Physical Education Curriculum, Grades Primary–6 (1998)
Physical Education Curriculum, Grades 7–9 (1999)
Physical Education Safety Guidelines, Grades P–12 (2002)

Science

Foundation for the Atlantic Canada Science Curriculum (1998)
Atlantic Canada Science Curriculum, Grade Primary (Implementation Draft, 2002)
Atlantic Canada Science Curriculum: Grade 1 (Implementation Draft, 2002)
Atlantic Canada Science Curriculum: Grade 7 (2001)
Atlantic Canada Science Curriculum: Grade 8 (2001)
Atlantic Canada Science Curriculum: Grade 9 (2001)
Atlantic Canada Science Curriculum: Science 10 (Implementation Draft, June 2000)
Agriculture/Agrifood 11 (Implementation Draft, 2003)
Atlantic Canada Science Curriculum: Biology 11 (Implementation Draft, 2000)
Atlantic Canada Science Curriculum: Biology 12 (Implementation Draft, 2000)
Atlantic Canada Science Curriculum: Chemistry 11 (Implementation Draft, 2000)
Atlantic Canada Science Curriculum: Chemistry 12 (Implementation Draft, 2000)
Atlantic Canada Science Curriculum: Physics 11 and Physics 12 (2002)
Physics 11 and Physics 12: A Teaching Resource (2003)
Oceans 11 (2003)
Oceans 11: A Teaching Resource, Volume 1 (2003)
Food Science 12 (Implementation Draft, 2003)
Geology 12 (Implementation Draft, 2002)
Science Safety Guidelines, Grades Primary–12 (Draft, October 2002)
ScienceLinks (2003
A Closer Look: Using Microscopes, Science Grades 3–6 (2003)
A Closer Look: Using Microscopes, Science Grades 7 and 8 (2003)
Secondary Science: A Teaching Resource (1999)

Social Studies

Foundation for the Atlantic Canada Social Studies Curriculum (1999)
Atlantic Canada Social Studies Curriculum, Atlantic Canada in the Global Community: Grade 9 (1998)
Atlantic Canada Social Studies Curriculum, Community Economic Development (2000)
Mi'kmaq Studies 10 (Implementation Draft, 2002)
African Canadian Studies 11 (Implementation Draft, 2002)
Canadian History 11 (Implementation Draft, 2002)
Gaelic Studies 11 (Implementation Draft, 2002)
Global History 12 (reprinted, 2003)
Geography 10 (No. 143, 1996)
Global Geography 12 (reprinted, 2003)
Political Science 441 (No. 17, 1978)

Student Services

Speech and Language Services: A Special Education Handbook (No. 38, 1983)
Special Education Policy Manual (1996)
Moving to Inclusion (1995) (see ALR under Physical Education)
Handbook for the Transportation of Students with Special Needs (1996)
Challenge for Excellence: Enrichment and Gifted Education Resource Guide (1999)
Guidelines for English as a Second Language (ESL) (2002)
Teacher Assistant Guidelines (1998)
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