

**2012  
AMENDMENTS  
to the  
Program of Studies: Senior High Schools**

1. **Replace** (2011) front-end pages i to vii and Preamble pages 1 to 4 with **revised** (2012) front-end pages i to vii and Preamble pages 1 to 4.
  
2. MATHEMATICS
  - **Replace** the Mathematics title page, following the Mathematics divider.
  - **Replace** Mathematics Grades 10–12 (Revised 2011), page 1, following the Mathematics title page, with **revised** Mathematics Grades 10–12 (Revised 2012), page 1.
  - **Remove** and **discard** Applied Mathematics 10–20–30, pages 1 to 26.
  - **Remove** and **discard** Pure Mathematics 10–20–30, pages 1 to 30.

**Note:** Applied Mathematics 30 and Pure Mathematics 30 have been withdrawn as of the beginning of the 2012–2013 school year. Therefore, all students enrolled in a 30-level Mathematics course at the start of the 2012–2013 school year will be taking Mathematics 30-1, Mathematics 30-2, Mathematics 30-3 or Mathematics 31.

# PROGRAM *of* STUDIES

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## *Senior High Schools*

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This Program of Studies is issued under the authority of the Minister of Education pursuant to section 39(1) of the *School Act*, Revised Statutes of Alberta 2000, Chapter S-3, as amended.

Alberta 

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This document reflects changes in the program of studies for senior high schools up to August 2012.

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# PROGRAM OF STUDIES: SENIOR HIGH SCHOOLS

## 2012 CONTENTS

### PREAMBLE

Introduction .....	1	Religious and Patriotic Instruction .....	4
Program Foundations.....	2		

Course	A. Program Rationale and Philosophy	B. General Learner Expectations/ General Outcomes	C. Specific Learner Expectations/ Specific Outcomes
<b>All programs of study are available for viewing and downloading at <a href="http://education.alberta.ca/teachers.aspx">http://education.alberta.ca/teachers.aspx</a>.</b>			
<b>ABORIGINAL LANGUAGE AND CULTURE PROGRAMS</b>			
Blackfoot Language and Culture 10–20–30	1993	1993	1993
Blackfoot Language and Culture Twelve-year Program, K–12	2010	2010	2010
Cree Language and Culture 10-3Y, 20-3Y, 30-3Y	2007	2007	2007
Cree Language and Culture 10-6Y, 20-6Y, 30-6Y	2007	2007	2007
Cree Language and Culture 10-9Y, 20-9Y, 30-9Y	2009	2009	2009
Cree Language and Culture Twelve-year Program, K–12	2005	2005	2005
<b>ABORIGINAL STUDIES 10–20–30</b>	2002	2002	2002
<b>CAREER INTERNSHIP 10</b>	2011	2011	2011
<b>CAREER AND LIFE MANAGEMENT</b>	2002	2002	2002
<b>CAREER AND TECHNOLOGY STUDIES</b>	p.3 2004		
<b>BUSINESS, ADMINISTRATION, FINANCE &amp; INFORMATION TECHNOLOGY (BIT)</b>			
Computing Science	2009	2009	2009
Enterprise and Innovation	2009	2009	2009
Financial Management	2009	2009	2009
Information Processing	2009	2009	2009
Management and Marketing	2009	2009	2009
Networking	2009	2009	2009
<b>HEALTH, RECREATION &amp; HUMAN SERVICES (HRH)</b>			
Community Care Services	2010	2010	2010
[CCS3050, pp. 1–2; CCS3060, pp. 1–3; CCS3070, pp. 1–2 – 2011]			
Cosmetology	2010	2010	2010
[COS1010, p. 1; COS2000, p. 1; COS3000, p. 1; COS3010, p. 1 – 2011]			
Esthetics	2010	2010	2010
Foods	2010	2010	2010
[FOD2130, p. 2; FOD2190, pp. 1–2; FOD3090, pp. 1–2 – 2011]			
[CKA3450, pp. 1–2; CKA3465, p. 1; CKA3480, pp. 1–2; CKA3490, p. 1; CKA3500, p. 1; CKA3515, p. 1; CKA3520, pp. 1–2 – 2011]			

The dates in the grid indicate the most current and up-to-date sections in each program of studies.

Course  All programs of study are available for viewing and downloading at <a href="http://education.alberta.ca/teachers.aspx">http://education.alberta.ca/teachers.aspx</a> .	A.  Program Rationale and Philosophy	B. General Learner Expectations/ General Outcomes	C. Specific Learner Expectations/ Specific Outcomes
Health Care Services Human and Social Services Legal Studies Recreation Leadership Tourism	2010 2010 2010 2010 2010	2010 2010 2010 2010 2010	2010 2010 2010 2010 2010
<b>MEDIA, DESIGN &amp; COMMUNICATION ARTS (MDC)</b>			
Communication Technology Design Studies Fashion Studies	2010 2010 2010	2010 2010 2010	2010 2010 2010
<b>NATURAL RESOURCES (NAT)</b>			
Agriculture Environmental Stewardship Forestry Primary Resources Wildlife	2010 2010 2010 2010 2010	2010 2010 2010 2010 2010	2010 2010 2010 2010 2010
<b>TRADES, MANUFACTURING &amp; TRANSPORTATION (TMT)</b>			
Construction Electro-Technologies Fabrication Logistics Mechanics	2009 2009 2009 2009 2009	2009 2009 2009 2009 2009	2009 2009 2009 2009 2009
<b>CAREER TRANSITIONS (CTR)<sup>①</sup></b>	2011		
FINE ARTS	2010	2010	2010
Art [general] Art 10–20–30 Art 11–21–31 Drama 10–20–30 Choral Music 10–20–30 General Music 10–20–30 Instrumental Music 10–20–30	1986 1986 1986 1989 1991 1994 1991	1986 1986 1986 1989 1991 1994 1991	1986 1986 1986 1989 1991 1994 1991
<b>GREEN CERTIFICATE PROGRAM</b>			
Green Certificate Program (applies to each specialization) Bee Keeper Production Technician Cow–Calf Beef Production Technician Dairy Production Technician Equine Technician Feedlot Beef Production Technician Field Crop Production Technician Irrigated Field Crop Production Technician Sheep Production Technician Swine Production Technician	2009 2006 2000 2000 2009 2000 2000 2000 2000 2000	2009 2006 2000 2000 2009 2000 2000 2000 2000 2000	

<sup>①</sup> Program information only.

Course  All programs of study are available for viewing and downloading at <a href="http://education.alberta.ca/teachers.aspx">http://education.alberta.ca/teachers.aspx</a> .	A.  Program Rationale and Philosophy	B. General Learner Expectations/ General Outcomes	C. Specific Learner Expectations/ Specific Outcomes
INFORMATION AND COMMUNICATION TECHNOLOGY	2000	2000	2000
KNOWLEDGE AND EMPLOYABILITY			
Academic Courses			
English Language Arts 10-4, 20-4, 30-4	2006 pp. 1, 3 2009	2006	2006
Mathematics 10-4, 20-4	2006 pp. 1, 3 2009	2006	2006
Science 10-4, 20-4	2006 pp. 1, 3 2009	2006	2006
Social Studies 10-4, 20-4	2007 pp. 1, 3 2009	2007	2007
Occupational Component Courses			
Occupational Courses 10-4, 20-4, 30-4	2006	2006	2006
Art/Design and Communication	2006	2006	2006
Auto Mechanics	2006	2006	2006
Business Services	2006	2006	2006
Construction: Building	2006	2006	2006
Construction: Metal Fabrication	2006	2006	2006
Cosmetology	2006	2006	2006
Fabrics	2007	2007	2007
Foods	2006	2006	2006
Horticulture	2006	2006	2006
Human Care	2006	2006	2006
Natural Resources	2007	2007	2007
Workplace Readiness	2006	2006	2006
LANGUAGE ARTS			
Chinese Language Arts 10–20–30	2006	2006	2006
English Language Arts			
English Language Arts 10-1, 20-1, 30-1	2003	2003	2003
English Language Arts 10-2, 20-2, 30-2	2003	2003	2003
English as a Second Language	1997	1997	1997
Français 10–20–30	2006 <sup>①</sup>		
French Language Arts 10–20–30	2006 <sup>①</sup>		
German Language Arts 10–20–30	2005	2005	2005
Spanish Language Arts 10–20–30	2009	2009	2009
Ukrainian Language Arts	2005	2005	2005
MATHEMATICS	2012 <sup>①</sup>		
Mathematics Grades 10–12	2008	2008	2008
Mathematics 31	1995	1995	
OTHER COURSES			
Special Projects 10–20–30	1995 <sup>①</sup>		
Work Experience 15–25–35	2011 <sup>①</sup>		
PHYSICAL EDUCATION K–12	2000	2000	2000
			pp. 21, 29 2001

① Program information only.

Course  All programs of study are available for viewing and downloading at <a href="http://education.alberta.ca/teachers.aspx">http://education.alberta.ca/teachers.aspx</a> .	A.  Program Rationale and Philosophy	B. General Learner Expectations/ General Outcomes	C. Specific Learner Expectations/ Specific Outcomes
<b>SCIENCE</b> Science 10 Biology 20–30 Chemistry 20–30 Physics 20–30 Science 20–30 Science 14–24	2005 2007 2007 2007 2007 2003	2005 2007 2007 2007 2007 2003	2005 2007 2007 2007 2007 2003
<b>SECOND LANGUAGES</b> Chinese Language and Culture 10-3Y, 20-3Y, 30-3Y Chinese Language and Culture 10-6Y, 20-6Y, 30-6Y Chinese Language and Culture 10-9Y, 20-9Y, 30-9Y French as a Second Language 10-3Y, 20-3Y, 30-3Y French as a Second Language 10-9Y, 20-9Y, 30-9Y German Language and Culture 10-3Y, 20-3Y, 30-3Y German Language and Culture 10-6Y, 20-6Y, 30-6Y German Language and Culture 10-9Y, 20-9Y, 30-9Y Italian Language and Culture 10-3Y, 20-3Y, 30-3Y Italian Language and Culture 10-6Y, 20-6Y, 30-6Y Italian Language and Culture 10-12Y, 20-12Y, 30-12Y Japanese Language and Culture 10-3Y, 20-3Y, 30-3Y Japanese Language and Culture 10-6Y, 20-6Y, 30-6Y Japanese Language and Culture 10-9Y, 20-9Y, 30-9Y Latin Punjabi Language and Culture 10-3Y, 20-3Y, 30-3Y Punjabi Language and Culture 10-9Y, 20-9Y, 30-9Y Spanish Language and Culture 10-3Y, 20-3Y, 30-3Y Spanish Language and Culture 10-6Y, 20-6Y, 30-6Y Spanish Language and Culture 10-9Y, 20-9Y, 30-9Y Ukrainian Language and Culture 10-3Y, 20-3Y, 30-3Y Ukrainian Language and Culture 10-6Y, 20-6Y, 30-6Y Ukrainian Language and Culture 10-9Y, 20-9Y, 30-9Y	2005 2005 2010 2007 2004 2006 2006 2010 2006 2006 2010 2010 2005 2005 2010 1986 2010 2010 2006 2006 2010 2005 2005 2010	2005 2005 2010 2007 2004 2006 2006 2010 2006 2006 2010 2010 2005 2005 2010 1986 2010 2010 2006 2006 2010 2005 2005 2010	2005 2005 2010 2007 2004 2006 2006 2010 2006 2006 2010 2010 2005 2005 2010 2003 2010 2010 2006 2006 2010 2005 2005 2010
<b>SOCIAL SCIENCES [general]</b> Anthropology Cultural and Physical Anthropology 30 Economics Economics for Consumers 20 Microeconomics 30 Macroeconomics 30 Geography Local and Canadian Geography 20 World Geography 30 History Western Canadian History 20 Canadian History 20 Western World History 30	1985	1985  1985  1985 1985 1985  1985 1985  1985 1985	1985  1985  1985 1985 1985  1985 1985  1985 1985







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# INTRODUCTION

## Program of Studies

The *Program of Studies* identifies the outcomes for the core and optional learning components for Kindergarten to Grade 12. Content is focused on what students are expected to know and be able to do.

Though organized into separate subject, course or program areas, there are many connections across the curriculum. Students see the world as a connected whole rather than as isolated segments. Integrating across content areas, and providing ways for students to make connections, enhances student learning. The reporting of student progress should, nevertheless, be in terms of the outcomes outlined in courses of study for each subject area.

Within any group of students there is a range of individual differences. Flexibility in planning for individuals within a group is needed. Therefore, school organization and teacher methodology are not mandated at the provincial level and may vary from class to class and school to school in order to meet student needs.

For guidelines and regulations relating to school programs and organization for instruction, refer to the *Guide to Education: ECS to Grade 12*, available for viewing and downloading from the Alberta Education website. Print copies are available for purchase from the LRC.

## Basic Learning Resources

Alberta Education authorizes a variety of resources to support the programs of study. Complete listings of all resources can be found on the Learning Resources Centre website at <http://www.lrc.education.gov.ab.ca>.

Resources can also be accessed through the:

- Authorized Resources Database at <http://education.alberta.ca/apps/lrdb>.

## Alberta Education Website

Information covering all areas of Kindergarten to Grade 12 education in Alberta, including curriculum and resources, can be found on the Alberta Education website at <http://education.alberta.ca>.

# PROGRAM FOUNDATIONS

## Alberta's Education System<sup>❶</sup>

### MISSION

Ensure inclusive learning opportunities for all students to be engaged thinkers and ethical citizens with an entrepreneurial spirit.

### EDUCATION BUSINESS PLAN GOALS

#### **Goal 1: Success for every student**

- Students demonstrate proficiency in literacy and numeracy, achieve Alberta's student learning outcomes, and develop competencies for success as engaged thinkers and ethical citizens with an entrepreneurial spirit.

#### **Goal 2: High quality education through collaboration and innovation**

- Effective learning and teaching within caring, respectful, safe and healthy environments is achieved through collaborative leadership.

#### **Goal 3: Success for First Nations, Métis and Inuit students**

- First Nations, Métis and Inuit (FNMI) students are engaged in learning and achieve educational outcomes at the same level as all students.

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❶ Excerpted from the *Education Business Plan 2012–15*, January 19, 2012. The Business Plan is available on the Alberta Education website at <http://education.alberta.ca/department/businessplans.aspx>.

## Goals and Standards Applicable to the Provision of Basic Education in Alberta<sup>1</sup>

A basic education must provide students with a solid core program, including language arts, mathematics, science and social studies.

Students will be able to meet the provincial graduation requirements and be prepared for entry into the workplace or post-secondary studies. Students will understand personal and community values and the rights and responsibilities of citizenship. Students will develop the capacity to pursue learning throughout their lives. Students also should have opportunities to learn languages other than English and to attain levels of proficiency and cultural awareness which will help to prepare them for participation in the global economy.

### Student Learning Outcomes

Students are expected to develop the knowledge, skills and attitudes that will prepare them for life after high school. A basic education will allow students to:

- (a) read for information, understanding and enjoyment
- (b) write and speak clearly, accurately and appropriately for the context
- (c) use mathematics to solve problems in business, science and daily-life situations
- (d) understand the physical world, ecology and the diversity of life
- (e) understand the scientific method, the nature of science and technology, and their application to daily life
- (f) know the history and geography of Canada and have a general understanding of world history and geography
- (g) understand Canada's political, social and economic systems within a global context
- (h) respect the cultural diversity and common values of Canada

- (i) demonstrate desirable personal characteristics, such as respect, responsibility, fairness, honesty, caring, loyalty and commitment to democratic ideals
- (j) recognize the importance of personal well-being, and appreciate how family and others contribute to that well-being
- (k) know the basic requirements of an active, healthful lifestyle
- (l) understand and appreciate literature, the arts and the creative process
- (m) research an issue thoroughly, and evaluate the credibility and reliability of information sources
- (n) demonstrate critical and creative thinking skills in problem solving and decision making
- (o) demonstrate competence in using information technologies
- (p) know how to work independently and as part of a team
- (q) manage time and other resources needed to complete a task
- (r) demonstrate initiative, leadership, flexibility and persistence
- (s) evaluate their own endeavours and continually strive to improve
- (t) have the desire and realize the need for lifelong learning.

### Standards for Student Learning

The Minister of Education defines acceptable standards and standards of excellence for student achievement in consultation with Albertans. Employers are involved in specifying the knowledge, skills and attitudes needed in the workplace. Schools, school authorities and the Minister of Education assess and report regularly to the public on a range of student learning.

The school's primary responsibility is to ensure that students meet or exceed the provincial standards, as reflected in the Student Learning Outcomes (outlined above), the Alberta Programs of Study, provincial achievement tests, diploma examinations and graduation requirements.

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<sup>1</sup> Excerpted from Ministerial Order (#004/98). This ministerial order is available on the Alberta Education website at <http://education.alberta.ca/departement/policy/standards.aspx>.

## Education Delivery

Schools must engage students in a variety of activities that enable them to acquire the expected learnings. Schools have authority to deploy resources and may use any instructional technique acceptable to the community as long as the standards are achieved. Schools, teachers and students are encouraged to take advantage of various delivery options, including the use of technology, distance learning and the workplace.

Schools play a supportive role to families and the community in helping students develop desirable personal characteristics and the ability to make ethical decisions. Schools also help students take increasing responsibility for their learning and behaviour, develop a sense of community belonging and acquire a clearer understanding of community values and how these relate to personal values.

Students learn basic, transferable knowledge, skills and attitudes in school. Schools, in co-operation with employers, provide opportunities for students to develop and practise employability skills. The Minister of Education provides credit for off-campus learning that is approved and accepted by the school and the employer. Government works with schools, employers and post-secondary institutions to help young people make a smooth transition to work and further study.

## RELIGIOUS AND PATRIOTIC INSTRUCTION

The following section of the *School Act* focuses on religious and patriotic instruction. It is cited here for the information of administrators and teachers.

SECTION 50(1) A board may

- (a) prescribe religious instruction to be offered to its students;
- (b) prescribe religious exercises for its students;
- (c) prescribe patriotic instruction to be offered to its students;
- (d) prescribe patriotic exercises for its students;
- (e) permit persons other than teachers to provide religious instruction to its students.

(2) Where a teacher or other person providing religious or patriotic instruction receives a written request signed by a parent of a student that the student be excluded from religious or patriotic instruction or exercises, or both, the teacher or other person shall permit the student

- (a) to leave the classroom or place where the instruction or exercises are taking place for the duration of the instruction or exercises, or
- (b) to remain in the classroom or place without taking part in the instruction or exercises.

1988 cS-3.1 s33;1990 c36 s16

# MATHEMATICS

## CONTENTS

Mathematics Grades 10–12

Mathematics 31

**Note:** Applied Mathematics 30 and Pure Mathematics 30 have been withdrawn as of the beginning of the 2012–2013 school year. Therefore, all students enrolled in a 30-level mathematics course at the start of the 2012–2013 school year will be taking Mathematics 30-1, Mathematics 30-2, Mathematics 30-3 or Mathematics 31.



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# MATHEMATICS

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The Mathematics Grades 10–12 Program of Studies was revised. Provincial implementation of the new program is as follows:

School Year	Provincial Implementation
2010–2011	Mathematics 10C Mathematics 10-3
2011–2012	Mathematics 20-1 Mathematics 20-2 Mathematics 20-3
<b>2012–2013</b>	<b>Mathematics 30-1</b> <b>Mathematics 30-2</b> <b>Mathematics 30-3</b>

**Note:** Applied Mathematics 30 and Pure Mathematics 30 have been withdrawn as of the beginning of the 2012–2013 school year. Therefore, all students enrolled in a 30-level mathematics course at the start of the 2012–2013 school year will be taking Mathematics 30-1, Mathematics 30-2, Mathematics 30-3 or Mathematics 31.



