



Science

International Baccalaureate (200.Z0)

Pre-University Program

College Education

2019 Version

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Coordination and content

Service de la formation préuniversitaire et de la recherche
Direction des programmes de formation collégiale
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English translation

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Modification History

Fall 2013	Initial authorization
Fall 2016	Repeal of objective 0037 and creation of objective 069N
Fall 2019	Replacement of objectives 0030 and 0031 by objectives 02A2, 02A3 and 02A4 Addition of objectives 02AA, 02AB and 02AC Repeal of objectives 0043 and 0044

DEFINITION OF THE PROGRAM

Program title	Science – International Baccalaureate
Type of program	Pre-university program
Program code and version	200.Z0 (2019)
Type of certification	Diploma of College Studies
Special conditions for admission	Secondary V Chemistry Secondary V Mathematics: Technical and Scientific option or Science option Secondary V Physics
Number of credits	58 $\frac{2}{3}$
— General education component	26 $\frac{2}{3}$
— Program-specific component	32
Number of periods of instruction	1560
— General education component	660
— Program-specific component	900
Program options	Pure and Applied Sciences Health Sciences
Proposed changes	<ul style="list-style-type: none">• Replacement of objectives 0030 and 0031 by objectives 02A2, 02A3 and 02A4• Addition of objectives 02AA, 02AB and 02AC• Repeal of objectives 0043 and 0044
Term and year in effect	Fall 2019

Décision relative à la modification d'un programme d'études préuniversitaires

IDENTIFICATION DU PROGRAMME D'ÉTUDES	
Titre du programme	Sciences de la nature – Cheminement du Baccalauréat international
Type de programme	Programme d'études préuniversitaires
Code et version du programme	200.Z0 (2019)
Type de sanction	Diplôme d'études collégiales
Conditions particulières d'admission	Chimie de la 5 ^e secondaire Mathématique, séquence Technico-sciences ou séquence Sciences naturelles de la 5 ^e secondaire Physique de la 5 ^e secondaire
Nombre d'unités	58 ⅔
— Formation générale	26 ⅔
— Formation spécifique	32
Nombre de périodes d'enseignement	1 560
— Formation générale	660
— Formation spécifique	900
Options du programme d'études	Sciences pures et appliquées Sciences de la santé
Modifications proposées	<ul style="list-style-type: none"> • Remplacement des objectifs 0030 et 0031 par les objectifs 02A2, 02A3 et 02A4; • Ajout des objectifs 02AA, 02AB et 02AC; • Abrogation des objectifs 0043 et 0044.
Session et année d'entrée en vigueur	Automne 2019
APPROBATION	
Recommandations :	 _____ Sous-ministre adjoint Enseignement supérieur
	27 Février 2019 _____ Date
	 _____ Sous-ministre
	4/3/2019 _____ Date
Approbation du ministre :	 _____ Jean-François Roy
	2019.03.06 _____ Date

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The Program

The Minister recognizes the *Science – International Baccalaureate* program leading to a Diploma of College Studies, though not established by him, as being equivalent to the *Science 200.B0* program.

Detailed information about the program can be obtained from the institutions authorized to offer the program.

The program is made up of a general education component and a program-specific component.

Program Objectives and Standards

Program-Specific Component

32 credits, 900 periods of instruction

Common Objectives for the *Pure and Applied Sciences* Option

- Biology (101)

00UK Analyze the organization, function and diversity of living organisms, $2\frac{2}{3}$ credits

- Mathematics (201)

02A2 Apply concepts and principles of differential and integral calculus in the context of the group 5 Mathematics: analysis and approaches higher-level requirements of the International Baccalaureate program, a minimum of $4\frac{1}{3}$ credits

02A3 Apply concepts and principles of mathematics other than differential and integral calculus in the context of the group 5 Mathematics: analysis and approaches higher-level requirements of the International Baccalaureate program, a minimum of 5 credits

02A4 Apply concepts and principles of matrix algebra

- Chemistry (202)

0034 Apply concepts and principles of chemistry in the context of the group 4 chemistry standard-level requirements of the International Baccalaureate program, a minimum of $5\frac{1}{3}$ credits

OR

00UL Analyze chemical and physical changes in matter using concepts associated with the structures of atoms and molecules, $2\frac{2}{3}$ credits

00UM Analyze the properties of solutions and reactions in solutions, $2\frac{2}{3}$ credits

- Physics (203)

0032 Apply concepts and principles of physics in the context of the group 4 physics higher-level requirements of the International Baccalaureate program, a minimum of 8 credits

OR

0033 Apply concepts and principles of physics in the context of the group 4 physics standard-level requirements of the International Baccalaureate program, a minimum of 8 credits

Common Objectives for the *Health Sciences* Option

- Biology (101)

0040 Apply concepts and principles of biology in the context of the group 4 biology higher-level requirements of the International Baccalaureate program, a minimum of 8 credits

OR

0041 Apply concepts and principles of biology in the context of the group 4 biology standard-level requirements of the International Baccalaureate program, a minimum of 5½ credits

- Mathematics (201)

02A2 Apply concepts and principles of differential and integral calculus in the context of the group 5 Mathematics: analysis and approaches higher-level requirements of the International Baccalaureate program, a minimum of 4½ credits

02A3 Apply concepts and principles of mathematics other than differential and integral calculus in the context of the group 5 Mathematics: analysis and approaches higher-level requirements of the International Baccalaureate program, a minimum of 5 credits

02A4 Apply concepts and principles of matrix algebra

OR

02AA Apply concepts and principles of differential and integral calculus in the context of the group 5 Mathematics: applications and interpretation higher-level requirements of the International Baccalaureate program, a minimum of 3½ credits

02AB Apply concepts and principles of statistics and probability in the context of the group 5 Mathematics: applications and interpretation higher-level requirements of the International Baccalaureate program, a minimum of 2½ credits

02AC Apply concepts and principles of mathematics other than differential and integral calculus and statistics and probability in the context of the group 5 Mathematics: applications and interpretation higher-level requirements of the International Baccalaureate program, a minimum of 3 credits

- Chemistry (202)

0042 Apply concepts and principles of chemistry in the context of the group 4 chemistry higher-level requirements of the International Baccalaureate program, a minimum of 8 credits

OR

00UL Analyze chemical and physical changes in matter using concepts associated with the structures of atoms and molecules, 2 $\frac{2}{3}$ credits

00UM Analyze the properties of solutions and reactions in solutions, 2 $\frac{2}{3}$ credits

00XV Solve simple problems in organic chemistry

- Physics (203)

00UR Analyze various situations and phenomena in physics using the basic principles of classical mechanics, 2 $\frac{2}{3}$ credits

00US Analyze various situations and phenomena in physics using the basic laws of electricity and magnetism, 2 $\frac{2}{3}$ credits

OR

00UR Analyze various situations and phenomena in physics using the basic principles of classical mechanics, 2 $\frac{2}{3}$ credits

00UT Analyze various situations or phenomena associated with waves, optics and modern physics using basic principles, 2 $\frac{2}{3}$ credits

Optional Objectives for the *Pure and Applied Sciences* and the *Health Sciences* Options

- 0035¹ Communicate in a living language in the context of natural sciences according to the group 1 or group 2 language subject area of the International Baccalaureate program, Modern Languages (618)
- 0036 Discuss critically an issue related to natural sciences, according to the group 3 individuals and societies subject area of the International Baccalaureate program
- 0038² Apply concepts and principles specific to global issues, according to the profile of a student in the International Baccalaureate program
- 0039³ Apply methods specific to carrying out a research project in the context of the core requirements of the International Baccalaureate program
- 069N Apply concepts, theories, models and techniques associated with the experimental sciences in one or more of the group 4 subjects of the International Baccalaureate program

1. The modern languages in the 600 group are the following: 602 French as a second language, 604 English as a second language, 607 Spanish, 608 Italian, 609 German, 610 Russian, 611 Hebrew, 612 Yiddish, 613 Chinese, 616 Arabic.

2. Objective that can be achieved with courses comprising less than 45 periods of instruction.

3. Objective that can be achieved with courses comprising less than 45 periods of instruction.

General Education Component

26 $\frac{2}{3}$ credits, 660 periods of instruction

Common Objectives

- 002U⁴ Discuss critically the role and nature of knowledge in the context of the core requirements of the International Baccalaureate program
- 002V Develop an appreciation of literary texts from different periods and of various genres in the language of instruction in the context of the group 1 requirements of the International Baccalaureate program

Optional Objectives

- 00H8 Discuss critically an issue related to the nature of individuals and societies in one or more of the group 3 subjects of the International Baccalaureate program
- 00H9⁵ Communicate in a living language in a range of contexts and for different purposes in one of the group 1 or group 2 languages of the International Baccalaureate program, Modern Languages (618)
- 0H10 Discuss critically and scientifically the concepts and foundations of science in one or more of the group 4 subjects of the International Baccalaureate program
- 4EP0 Analyze physical activity from the standpoint of lifestyle behaviours that promote health
- 4EP1 Improve effectiveness when practising a physical activity
- 4EP2 Demonstrate the ability to manage health-enhancing physical activity

4. Objective that can be achieved with courses comprising less than 45 periods of instruction.

5. The modern languages in the 600 group are the following: 602 French as a second language, 604 English as a second language, 607 Spanish, 608 Italian, 609 German, 610 Russian, 611 Hebrew, 612 Yiddish, 613 Chinese, 616 Arabic.

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