

DEPARTMENT OF EDUCATION

COLLEGE PROGRAMME CATALOGUE

1967 - 1968

SECTION II

BIOLOGICAL SCIENCES AND TECHNOLOGIES

Quebec, September 1967.

TRANSLATOR'S NOTE

This document is essentially a translation of the 1967-8 College Catalogue, which originally appeared in the late Fall of 1967. Since this is the first year of operation of the College programme, it is inevitable that there will be some changes -some quite substantial- in the 1968-9 announcement. Faced with the choice between distributing information some of which may shortly be out of date, and distributing no information at all, the first alternative is obviously the only possible course.

It should be remembered that the College catalogue represents the total of courses and programmes approved for the system. Each individual College publishes its own announcement containing the courses and programmes which it is in a position to offer

In preparing an English translation, changes have only been made where a direct translation would be misleading -for example- the replacement of required courses in French language and Literature with courses in English language and Literature. The following points of detail should be noted:

1. What were originally required course in Philosophy, and which are specified in the French language version, are designated by the term "Philosophy, etc." since the matter of equivalents is still under study.
2. The programmes for English as a first language and French as a second language were not complete when Section I of the catalogue went to press.
3. Where language courses in French or English are specified in the French language version, these have been exchanged.
4. A certain number of course descriptions, especially in the fields of the Social Sciences, Art and Language and Literature, do not fit directly into an English language programme. Where necessary such courses will have to be modified, although in most cases the aims and basic approach of the course are unlikely to have to be changed.
5. In some cases exact equivalents are difficult to find. "Sciences humaines", for example, covers all of what are known as "Social Sciences" in the English language sector together with a number of disciplines

usually classed under the heading of "Humanities".

"Sciences humaines" has therefore been translated as "Social Sciences", and, for want of a better term the sub-division "Sciences sociales" (meaning Anthropology, Economics, Political Science and Sociology) is translated by "Social Studies".

6. In certain cases, experts consulted have disagreed -or, in exceptional cases, no expert could be found !- so that there are bound to be some expressions of which some readers will not approve.

7. The French language version lists suggested text-books for many courses. Although many of these are in English, because of the apparent non-availability of French language texts, it has been decided not to specify text-books in the English language version.

The translator wishes to express his gratitude to the many people in educational establishments and in business and industry who so kindly gave their time to checking his translations or, in some cases, providing complete translations themselves.

James H. Whitelaw
Special Counsellor
Directorate of College Education.

Quebec, February 1968.

TABLE OF CONTENTS

NOTICE	2
PROGRAMMES	4
LIST OF COURSES	19
COURSE OUTLINES	25
- I - Biology	26
- II - Forestry technology	40
- III- Nursing	45
- IV - Dental Technology	51
- V - Radiological Technology	60
- VI - Physical Education	67

NOTICE

This section of the College Course Catalogue contains, in addition to the programmes in Biological Sciences and Technologies, descriptions of the courses which go, or might go, to making up the areas of concentration or vocational specialization involving these disciplines.

As far as the courses are concerned, it should be noted that only those currently included in one of the programmes in the Catalogue are accompanied by details of the distribution of work-load.

The various departments of each College will be responsible for preparing the syllabus of each course, based on the course descriptions. The syllabus must include, in particular, a description of the aims appropriate for each course, instructions as to the way the course is to be given and a bibliography.

Courses forming a sequence are listed according to the chronological order of the terms in which they appear in the programmes; the other courses are listed in numerical order within their category.

As far as the programmes are concerned, they are listed according to their respective destination. In the case of programmes leading to university entrance, these are designated by the AREA OF CONCENTRATION, which defines their general nature, and the FIELD OF FUTURE STUDY, which makes it specific.

In the same way, in the case of programmes leading to types of employment requiring college-level preparation, these are designated by the VOCATIONAL DIVISION concerned, and the SPECIALIZATION which distinguishes each from the other.

For the academic year 1967-1968, only the programmes listed in this section will be recognized, and the courses in them credited. If modifications are found necessary, they must be submitted for approval to the Curriculum Division of the Directorate.

PROGRAMMES

SPECIALIZATION : MEDICAL RECORDS
 VOCATIONAL DIVISION : HEALTH TECHNOLOGY Programme 1

FIRST TERM			SECOND TERM		
602-101-00	English	3-0-3	602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3	-	Philosophy, etc.	3-0-3
101-921-00	BIOLOGY	3-3-1	201-104-00	MATHEMATICS	1-2-1
304-102-00	PSYCHOLOGY	3-0-3	202-201-00	CHEMISTRY	3-3-3
304-101-00	PSYCHOLOGY	3-0-6	304-201-00	PSYCHOLOGY	3-0-3
			321-201-00	RECORDS	3-0-1
			302-954-00	HISTORY	3-0-6
	Complementary course			Complementary course	
	Physical Education 2			Physical Education 2	
THIRD TERM			FOURTH TERM		
602-301-00	English	3-0-3	602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3	-	Philosophy, etc.	3-0-3
101-923-00	BIOLOGY	3-3-1	201-303-00	MATHEMATICS	3-1-3
101-931-00	BIOLOGY	3-3-1	201-111-00	MATHEMATICS	3-1-2
306-101-00	SOCIOLOGY	3-0-2	321-401-90	RECORDS	6-3-3
	Complementary course			Complementary course	
	Physical Education 2			Physical Education 2	
FIFTH TERM			SIXTH TERM		
321-501-90	RECORDS	6-6-3	321-601-90	RECORDS	6-15-2
321-511-90	RECORDS	6-15-6	321-611-90	RECORDS	6-6-1
			321-621-90	RECORDS	4-6-1

PREPARATION FOR: DENTISTRY

AREA OF CONCENTRATION : SCIENCE II

Programme 2

FIRST TERM

602-101-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-101-00	MATHEMATICS	3-2-3
101-921-00	BIOLOGY	3-3-1
202-101-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

SECOND TERM

602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-102-00	MATHEMATICS	3-2-3
101-923-00	BIOLOGY	3-3-1
202-201-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

THIRD TERM

602-301-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-103-00	MATHEMATICS	3-1-3
203-102-00	PHYSICS	3-1-2
202-922-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

FOURTH TERM

602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-203-00	MATHEMATICS	3-1-3
203-202-00	PHYSICS	3-1-2
203-302-00	PHYSICS	3-1-2

Complementary course

Physical Education 2

PREPARATION FOR: PHYSICAL EDUCATION

AREA OF CONCENTRATION: SCIENCE II Programme 3

FIRST TERM

602-101-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-101-00	MATHEMATICS	3-2-3
101-921-00	BIOLOGY	3-3-1
202-101-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

SECOND TERM

602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-102-00	MATHEMATICS	3-2-3
101-923-00	BIOLOGY	3-3-1
202-201-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

THIRD TERM

602-301-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-103-00	MATHEMATICS	3-1-3
203-102-00	PHYSICS	3-1-2
202-922-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

FOURTH TERM

602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-203-00	MATHEMATICS	3-1-3
203-202-00	PHYSICS	3-1-2
203-302-00	PHYSICS	3-1-2

Complementary course

Physical Education 2

PREPARATION FOR : MEDICINE
 AREA OF CONCENTRATION : SCIENCE II Programme 4

FIRST TERM			SECOND TERM		
602-101-00	English	3-0-3	602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3	-	Philosophy, etc.	3-0-3
201-101-00	MATHEMATICS	3-2-3	201-102-00	MATHEMATICS	3-2-3
101-921-00	BIOLOGY	3-3-1	101-923-00	BIOLOGY	3-3-1
202-101-00	CHEMISTRY	3-3-3	202-201-00	CHEMISTRY	3-3-3
Complementary course			Complementary course		
Physical Education 2			Physical Education 2		

THIRD TERM			FOURTH TERM		
602-301-00	English	3-0-3	602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3	-	Philosophy, etc.	3-0-3
201-103-00	MATHEMATICS	3-1-3	201-203-00	MATHEMATICS	3-1-3
203-102-00	PHYSICS	3-1-2	203-202-00	PHYSICS	3-1-2
202-922-00	CHEMISTRY	3-3-3	203-302-00	PHYSICS	3-1-2
Complementary course			Complementary course		
Physical Education 2			Physical Education 2		

PREPARATION FOR : NURSING

AREA OF CONCENTRATION : SCIENCE II Programme 5

FIRST TERM

602-101-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-101-00	MATHEMATICS	3-2-3
101-921-00	BIOLOGY	3-3-1
202-101-00	CHEMISTRY	3-3-3

Complementary course
Physical Education 2

SECOND TERM

602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-102-00	MATHEMATICS	3-2-3
101-923-00	BIOLOGY	3-3-1
202-201-00	CHEMISTRY	3-3-3

Complementary course
Physical Education 2

THIRD TERM

602-301-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-103-00	MATHEMATICS	3-1-3
203-102-00	PHYSICS	3-1-2
202-922-00	CHEMISTRY	3-3-3

Complementary course
Physical Education 2

FOURTH TERM

602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-203-00	MATHEMATICS	3-1-3
203-202-00	PHYSICS	3-1-2
203-302-00	PHYSICS	3-1-2

Complementary course
Physical Education 2

SPECIALIZATION : NURSING (REVISED - MARCH 1968)
 VOCATIONAL DIVISION : HEALTH TECHNOLOGY Programme 6

FIRST TERM			SECOND TERM		
602-101-00	English	3-0-3	602-201-00	English	3-0-3
-	Philosophy	3-0-3	-	Philosophy, etc.	3-0-3
202-929-00	CHEMISTRY	3-3-3	101-990-00	APPLIED SCIENCE (3)	3-3-3
101-930-00	BIOLOGY	3-2-3	101-940-00	BIOLOGY	3-2-3
113-101-00	NURSING	3-3-3	113-201-00	NURSING	3-6-3
Complementary course					
Physical Education 2			Physical Education 2		
THIRD TERM			FOURTH TERM		
602-301-00	English	3-0-3	602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3	-	Philosophy, etc.	3-0-3
201-920-00	MATHEMATICS	3-1-3	304-321-00	PSYCHOLOGY	3-0-6
304-221-00	PSYCHOLOGY	3-0-6	113-401-00	NURSING	6-12-6
113-301-00	NURSING	3-12-6			
Physical Education 2			Physical Education 2		
FIFTH TERM			SIXTH TERM		
304-322-00	PSYCHOLOGY	3-0-3	306-251-00	SOCIOLOGY	3-0-3
306-101-00	SOCIOLOGY	3-0-3	113-601-00	NURSING	6-18-12
113-501-00	NURSING	6-12-12			
Complementary course					

PREPARATION FOR : OPTOMETRY
 AREA OF CONCENTRATION : SCIENCE II Programme 7

FIRST TERM

602-101-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-101-00	MATHEMATICS	3-2-3
101-921-00	BIOLOGY	3-3-1
202-101-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

SECOND TERM

602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-102-00	MATHEMATICS	3-2-3
101-923-00	BIOLOGY	3-3-1
202-201-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

THIRD TERM

602-301-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-103-00	MATHEMATICS	3-1-3
203-102-00	PHYSICS	3-1-2
	RELATED COURSE	

Complementary course

Physical Education 2

FOURTH TERM

602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-203-00	MATHEMATICS	3-1-3
203-202-00	PHYSICS	3-1-2
203-302-00	PHYSICS	3-1-2

Complementary course

Physical Education 2

PREPARATION FOR : PHARMACY
 AREA OF CONCENTRATION : SCIENCE II Programme 8

FIRST TERM			SECOND TERM		
602-101-00	English	3-0-3	602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3	-	Philosophy, etc.	3-0-3
201-101-00	MATHEMATICS	3-2-3	201-102-00	MATHEMATICS	3-2-3
101-921-00	BIOLOGY	3-3-1	101-923-00	BIOLOGY	3-3-1
202-101-00	CHEMISTRY	3-3-3	202-201-00	CHEMISTRY	3-3-3
	Complementary course			Complementary course	
	Physical Education 2			Physical Education 2	

THIRD TERM			FOURTH TERM		
602-301-00	English	3-0-3	602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3	-	Philosophy, etc.	3-0-3
201-103-00	MATHEMATICS	3-1-3	201-203-00	MATHEMATICS	3-1-3
203-102-00	PHYSICS	3-1-2	203-202-00	PHYSICS	3-1-2
202-922-00	CHEMISTRY	3-3-3	203-302-00	PHYSICS	3-1-2
	Complementary course			Complementary course	
	Physical Education 2			Physical Education 2	

SPECIALIZATION : RADIOGRAPHY

VOCATIONAL DIVISION : HEALTH TECHNOLOGY Programme 9

FIRST TERM

602-101-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-104-00	MATHEMATICS	1-2-1
203-102-00	PHYSICS	3-1-2
202-970-00	RADIOLOGICAL CHE- MISTRY	3-3-2
101-934-00	HUMAN BIOLOGY I	3-2-3
115-101-90	RADIOGRAPHIC TECH- NIQUE I	6-3-6

Complementary course

Physical Education 2

SECOND TERM

602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-103-00	MATHEMATICS	3-1-3
203-202-00	PHYSICS	3-1-2
101-935-00	HUMAN BIOLOGY II	3-2-3
101-938-00	RADIOLOGY	3-3-3
115-201-90	RADIOGRAPHIC TECH- NIQUE II	6-3-6

Complementary course

Physical Education 2

THIRD TERM

602-301-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-211-00	MATHEMATICS	3-1-2
203-936-00	PHYSICS	3-1-2
101-936-00	HUMAN BIOLOGY III	3-2-3
113-302-00	NURSING CARE	3-0-2
115-301-00	RADIOGRAPHIC TECH- NIQUE III	3-3-2

Complementary course

Physical Education 2

FOURTH TERM

602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-920-00	MATHEMATICS	3-1-3
203-994-00	NUCLEAR PHYSICS	3-2-3
101-937-00	HUMAN BIOLOGY IV	3-0-2
113-910-00	BACTERIOLOGY AND PHARMACOLOGY	3-1-1
115-401-00	RADIOGRAPHIC TECH- NIQUE IV	3-3-2

Physical Education 2

FIFTH TERM

115-620-00	PEDIATRICS I	3-0-2
115-622-00	CARDIOLOGY I	3-0-2
115-624-00	ORTHOPEDICS I	3-3-2
115-626-00	NEUROLOGY I	3-0-2
115-628-00	SURGERY I	3-0-2
115-630-00	OBSTETRICS I	3-3-2
115-501-00	RADIOGRAPHIC TECH- NIQUE V	3-3-3

SIXTH TERM

115-621-00		
115-623-00	CARDIOLOGY II	3-0-2
115-625-00	ORTHOPEDICS II	3-3-2
115-627-00	NEUROLOGY II	3-0-2
115-629-00	SURGERY II	3-0-2
115-631-00	OBSTETRICS II	3-0-2
115-601-00	RADIOGRAPHIC TECH- NIQUE VI	3-3-2
115-632-00	CARDIOVASCULAR	3-0-2
115-910-00	PREPARATION FOR CERTIFICATION	3-0-2

SPECIALIZATION : RADIOISOTOPE TECHNOLOGY
 VOCATIONAL DIVISION : HEALTH TECHNOLOGY Programme 10

FIRST TERM

602-101-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-104-00	MATHEMATICS	1-2-1
203-102-00	PHYSICS	3-1-2
202-970-00	RADIOLOGICAL CHEMISTRY	3-3-2
101-934-00	HUMAN BIOLOGY I	3-2-3
115-103-00	RADIOISOTOPE TECH- NIQUE I	3-3-3

SECOND TERM

602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3
203-202-00	PHYSICS	3-1-2
201-103-00	MATHEMATICS	3-1-3
101-935-00	HUMAN BIOLOGY II	3-2-3
101-938-00	RADIOBIOLOGY	3-3-3
115-203-90	RADIOISOTOPE TECH- NIQUE II	6-3-5

Complementary course

Physical Education 2

Physical Education 2

THIRD TERM

602-301-00	English	3-0-3
-	Philosophy, etc.	3-0-3
203-302-00	PHYSICS	3-1-2
201-211-00	MATHEMATICS	3-1-2
101-936-00	HUMAN BIOLOGY III	3-2-3
113-302-00	NURSING CARE	3-0-2
115-303-00	RADIOISOTOPE TECH- NIQUE III	9-0-3

FOURTH TERM

602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-920-00	MATHEMATICS	3-1-3
203-402-00	PHYSICS	2-1-2
101-937-00	HUMAN BIOLOGY IV	3-0-2
113-910-00	PHARMACOLOGY AND BACTERIOLOGY	3-1-1
115-403-00	RADIOISOTOPE TECH- NIQUE IV	9-0-4

Complementary course

Physical Education 2

Physical Education 2

FIFTH TERM

115-504-00	RADIOISOTOPE SCAN- NING I	3-0-2
115-505-00	COUNTING DYNAMICS I	3-0-2
115-506-00	METABOLIC STUDIES I	3-0-2
115-507-00	BIOCHEMISTRY I	3-3-3
115-503-90	RADIOISOTOPE TECH- NIQUE V	6-3-2

SIXTH TERM

115-604-00	RADIOISOTOPE SCANNING II	3-0-2
115-605-00	COUNTING DYNAMICS II	3-0-2
115-606-00	METABOLIC STUDIES II	3-0-2
115-607-00	BIOCHEMISTRY II	3-3-3
115-603-90	RADIOISOTOPE TECH- NIQUE VI	6-3-2
115-910-00	PREPARATION FOR CERTIFICATION	3-0-3

SPECIALIZATION : RADIOTHERAPY

VOCATIONAL DIVISION : HEALTH TECHNOLOGY Programme 11

FIRST TERM

602-101-00 English 3-0-3
 - Philosophy 3-0-3

 201-104-00 MATHEMATICS 1-2-1
 203-102-00 PHYSICS 3-1-2
 101-934-00 HUMAN BIOLOGY I 3-2-3
 115-102-00 RADIOTHERAPEUTIC
 TECHNIQUE I 3-3-3
 202-971-00 RADIOTHERAPEUTIC
 CHEMISTRY 3-3-2

Physical Education 2

SECOND TERM

602-201-00 English 3-0-3
 - Philosophy, etc. 3-0-3

 201-103-00 MATHEMATICS 3-1-3
 203-202-00 PHYSICS 3-1-2
 101-938-00 RADIOLOGY 3-3-3
 101-935-00 HUMAN BIOLOGY II 3-2-3
 115-202-90 RADIOTHERAPEUTIC
 TECHNIQUE II 6-3-5

Physical Education 2

THIRD TERM

602-301-00 English 3-0-3
 - Philosophy, etc. 3-0-3

 201-211-00 MATHEMATICS 3-1-2
 203-312-00 PHYSICS 3-1-2
 101-936-00 HUMAN BIOLOGY III 3-2-3
 113-302-00 NURSING CARE 3-0-2
 115-302-90 RADIOTHERAPEUTIC
 TECHNIQUE III 6-0-2
 RADIUM AND BETATROI 3-0-2

Physical Education 2

FOURTH TERM

602-401-00 English 3-0-3
 - Philosophy, etc. 3-0-3

 201-920-00 MATHEMATICS 3-1-3
 205-402-00 PHYSICS 2-1-2
 101-937-00 HUMAN BIOLOGY IV 3-0-2
 113-910-00 BACTERIOLOGY AND
 PHARMACOLOGY 3-1-1
 115-402-90 RADIOTHERAPEUTIC
 TECHNIQUE IV 6-0-2

Physical Education 2

FIFTH TERM

115-508-00 TERMINOLOGY I 3-0-2
 115-509-00 CONTACT THERAPY I 3-0-2
 115-502-00 RADIOTHERAPEUTIC
 TECHNIQUE V 6-0-2
 115-512-00 RADIOTHERAPEUTIC
 TECHNIQUE VI 12-6-4

SIXTH TERM

115-608-00 TERMINOLOGY II 3-0-2
 115-609-00 CONTACT THERAPY II 3-3-2
 115-602-00 RADIOTHERAPEUTIC
 TECHNIQUE VII 3-3-2
 115-911-00 APPLIED RADIOTHERA-
 PY 3-3-2
 115-612-00 RADIOTHERAPEUTIC
 TECHNIQUE VIII 12-0-6
 115-910-00 PREPARATION FOR
 CERTIFICATION 3-0-2

PREPARATION FOR : HOME ECONOMICS

AREA OF CONCENTRATION : SCIENCE II

Programme 12

FIRST TERM

602-101-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-101-00	MATHEMATICS	3-2-3
101-921-00	BIOLOGY	3-3-1
202-101-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

SECOND TERM

602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-102-00	MATHEMATICS	3-2-3
101-923-00	BIOLOGY	3-3-1
202-201-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

THIRD TERM

602-301-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-103-00	MATHEMATICS	3-1-3
203-102-00	PHYSICS	3-1-2
202-922-00	CHEMISTRY	3-3-3

Complementary course

Physical Education 2

FOURTH TERM

602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-203-00	MATHEMATICS	3-1-3
203-202-00	PHYSICS	3-1-2
203-302-00	PHYSICS	3-1-2

Complementary course

Physical Education 2

SPECIALIZATION : DENTAL TECHNOLOGY

VOCATIONAL DIVISION : HEALTH TECHNOLOGY Programme 13

FIRST TERM

602-101-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-104-00	MATHEMATICS	1-2-1
202-101-00	CHEMISTRY	3-3-3
114-102-00	DENTAL ANATOMY	3-3-3
114-101-00	DENTAL MATERIALS	3-0-3
214-111-	DESIGN	0-3-3

Complementary course

Physical Education 2

SECOND TERM

602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-102-00	MATHEMATICS	3-2-3
101-921-00	BIOLOGY	3-3-1
114-202-00	DENTAL TECHNOLOGY	3-3-3
114-201-00	DENTAL MATERIALS	3-0-3
214-211-	DESIGN	0-3-0

Complementary course

Physical Education 2

THIRD TERM

602-301-00	English	3-0-3
-	Philosophy, etc.	3-0-3
202-301-00	CHEMISTRY	3-1-2
114-302-00	DENTAL TECHNOLOGY	3-0-3
114-402-00	DENTAL TECHNOLOGY	3-0-3
114-301-00	DENTAL MATERIALS	3-0-3

Physical Education 2

FOURTH TERM

602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3
101-923-00	BIOLOGY	3-3-1
114-312-	DENTAL TECHNOLOGY II	0-6-0
114-412-	DENTAL TECHNOLOGY III	0-3-0
114-401-00	DENTAL MATERIALS	3-0-3

Physical Education 2

FIFTH TERM

114-513-00	DENTAL PHYSIOLOGY-PATHOLOGY I	2-0-1
413-101-00	ACCOUNTING	3-2-3
114-502-00	DENTAL TECHNOLOGY IV	3-0-3
114-602-00	DENTAL TECHNOLOGY V	3-0-3
114-501-00	DENTAL TECHNOLOGY VI	2-4-3

Complementary course

SIXTH TERM

114-613-00	DENTAL PHYSIOLOGY-PATHOLOGY II	2-0-1
114-614-00	ETHICS	2-0-1
413-201-00	ACCOUNTING	3-2-3
114-512-	DENTAL TECHNOLOGY IV	0-3-0
114-612-	DENTAL TECHNOLOGY V	0-6-0
114-622-00	DENTAL TECHNOLOGY VII / VIII	3-9-6

SPECIALIZATION : FORESTRY TECHNOLOGY
 VOCATIONAL DIVISION : FORESTRY TECHNOLOGY Programme 14

FIRST TERM

602-101-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-111-00	MATHEMATICS	3-1-2
201-104-00	MATHEMATICS	1-2-1
202-101-00	CHEMISTRY	3-3-2
101-933-00	PLANT BIOLOGY	3-3-1
214-101-00	DRAUGHTING I	1-2-3

Physical Education 2

SECOND TERM

602-201-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-103-00	MATHEMATICS	3-1-3
203-102-00	PHYSICS	3-1-2
202-201-00	CHEMISTRY	3-3-3
101-960-00	FOREST BOTANY	3-1-3
214-201-00	DRAUGHTING II	2-1-3

Physical Education 2

THIRD TERM

602-301-00	English	3-0-3
-	Philosophy, etc.	3-0-3
201-203-00	MATHEMATICS	3-1-3
203-202-00	PHYSICS	3-1-2
202-921-00	CHEMISTRY	3-3-3
101-961-00	DENDROLOGY	3-1-3
214-611-00	TOPOGRAPHICAL DRAWING VII	2-1-2

Physical Education 2

FOURTH TERM

602-401-00	English	3-0-3
-	Philosophy, etc.	3-0-3
203-302-00	PHYSICS	3-1-2
202-924-00	CHEMISTRY	3-3-3
101-962-00	ZOOLOGY	3-1-3
210-901-00	PLANE SURVEYING	3-1-3
110-901-00	WOOD TECHNOLOGY	3-0-3

Physical Education 2

FIFTH TERM

201-920-00	MATHEMATICS	3-1-3
110-902-00	FOREST PROTECTION	3-2-2
602-	ENGLISH	
110-903-00	MINERALOGY - GEOLOGY- METEOROLOGY	2-1-2
110-904-00	FOREST OPERATIONS I	3-0-2
110-906-00	SURVEYING I	3-3-3
210-902-00	SYLVICULTURE I	3-3-1

SIXTH TERM

101-921-00	BIOGEOGRAPHY	3-1-2
110-908-00	FOREST MANAGEMENT	3-0-3
210-904-00	PHOTOGRAMETRY	3-1-3
110-905-00	SYLVICULTURE II	2-1-2
110-907-00	FOREST OPERATIONS II	3-3-3
210-903-00	SURVEYING II	3-3-1
110-909-	FOREST INFORMATION AND/OR FOREST PRACTICE	0-9-0

LIST OF COURSES

I

BIOLOGY

		<u>Page</u>
101-001-90	General Biology	27
101-921-00	Cytogenetics and Embryology	28
101-922-00	Invertebrate Zoology	28
101-923-00	Human Physiology I	29
101-924-00	Biogeography of Quebec	29
101-931-00	Human Physiology II	29
101-932-00	Comparative Chordate Zoology	30
101-933-00	Plant Biology	30
101-934-00	Human Biology I	31
101-935-00	Human Biology II	31
101-936-00	Human Biology III	31
101-937-00	Human Biology IV	31
101-938-00	Radiology	32
101-941-00	Microbiology	32
101-942-00	Microbiology	33
101-951-00	Instrumental Biological Analysis	33
101-952-00	Instrumental Biological Analysis	34
101-960-00	Forestry Botany	34
101-961-00	Dendrology	34
101-962-00	Zoology	35
101-963-00	Cytology and Genetics	35
101-964-00	Cytology and Genetics	36
101-970-00	Physiology	36

		<u>Page</u>
101-972-00	Physiology	37
101-973-00	Experimental Physiology	37
101-974-00	Experimental Physiology	37
101-981-00	Haematology	37
101-982-00	Haematology	38
101-990-00	Special Biology	38
101-991-00	Histology	39
101-992-00	Histology	39

II

FORESTRY TECHNOLOGY

List of courses to follow

III

Page

NURSING

Revised 1968-9 courses to follow

IV

DENTAL TECHNOLOGY

114-101-00	Dental Materials	52
114-201-00	Dental Materials	52
114-301-00	Dental Materials	53
114-401-00	Dental Materials	53
114-501-00	Dental Technology VI	54
114-102-00	Dental Anatomy	54
114-202-00	Dental Technology I	54

		<u>Page</u>
114-302-00	Dental Technology II	55
114-312-00	Dental Technology II	55
114-402-00	Dental Technology III	56
114-412-00	Dental Technology III	56
114-502-00	Dental Technology IV	56
114-512-00	Dental Technology IV	56
114-602-00	Dental Technology V	57
114-612-00	Dental Technology V	57
114-622-00	Dental Technology VII or VIII	58
114-613-00	Dental Physio-psychology	59

V

RADIOLOGICAL TECHNOLOGY

115-101-90	Radiographic Technique I	61
115-201-90	Radiographic Technique II	61
115-301-00	Radiographic Technique III	61
115-401-00	Radiographic Technique IV	61
115-501-00	Radiographic Technique V	61
115-601-00	Radiographic Technique VI	61
115-102-00	Radioterapeutic Technique I	61
115-202-00	Radioterapeutic Technique II	62
115-302-00	Radioterapeutic Technique III	62
115-402-90	Radioterapeutic Technique IV	62
115-502-90	Radioterapeutic Technique V	62
115-512-00	Radioterapeutic Technique VI	62
115-602-00	Radioterapeutic Technique VII	62

		<u>Page</u>
115-612-00	Radioterapeutic Technique VIII	63
115-103-00	Radioisotope Technique I	63
115-203-00	Radioisotope Technique II	64
115-303-00	Radioisotope Technique III	64
115-403-00	Radioisotope Technique IV	64
115-503-90	Radioisotope Technique V	64
115-603-90	Radioisotope Technique VI	65
115-504-00	Radioisotope Scanning	65
115-604-00	Radioisotope Scanning	65
115-508-00	Terminology I	65
115-608-00	Terminology II	65
115-509-00	Contact Therapy I	65
115-609-00	Contact Therapy II	65
115-620-00	Pediatrics I	66
115-621-00	Pediatrics II	66
115-622-00	Cardiology I	66
115-623-00	Cardiology II	66
115-624-00	Orthopedics I	66
115-625-00	Orthopedics II	66
115-626-00	Neurology I	66
115-627-00	Neurology II	66
115-628-00	Surgery I	66
115-629-00	Surgery II	66
115-630-00	Obstetrics I	66
115-631-00	Obstetrics II	66

COURSE OUTLINES

I
BIOLOGY

BIOLOGY

(101-) 1

101-001-90 GENERAL BIOLOGY

A- General Biology I

Theory:

- I- Life in the universe: life and its constituent elements. Origin of the universe and of the Earth. Origin of life.
- II- Cellular organization: cellular structure and function. Cellular division.
- III- Multi-cellular organization: in the higher plants (metaphytes), in the metazoa.
- IV- Diversity of living creatures: continuity of evolution.

Laboratory

Introductory microscopy. Study of plant and animal cells. Membrane permeability. Fresh-water invertebrates. Dissection of frogs.

B- General Biology II

Theory:

- V- Maintenance of life: nutrition and metabolism in plants and animals. Functions of relation and regulatory functions, enzymes, hormones, neural coordination, sensory organs, body fluids, excretion.
- VI- Continuity of life: reproduction of organisms. Heredity. Evolution.
- VII- Ecology: organism and physical environment. Interdependence of organisms. The place of man in nature.

Laboratory

Muscular contraction. Capillary circulation. Study of flowering plants. Dissection of heart and kidneys. Basal metabolism, mitosis and meiosis. Genetics.

BIOLOGY

(101-) 2

101-921-00 CYTOGENETICS AND EMBRYOLOGY

3-3-1
Pre-requisite
101-001-90

Theory:

Cytology. Historical outline. Physiology, differentiation, exchange and multiplication of cells. Genetics. DNA. Chromosomes. Laws of Mendel. Dihybridism. Chromosomal charts. Multiple factors. Determination of sex. Blood groups. Mutation, heredity and environment. Embryology. Nature. Aim and methods. Gametogenesis and fertilisation. Cleavage and gastrulation. Organogenesis of starfish. Amphioxus. Chicken. Man.

Laboratory

Study of different types of cell. Giant chromosomes. Human chromosomes. Problems in genetics. Study of embryonic tissues.

101-922-00 INVERTEBRATE ZOOLOGY

Pre-requisite
101-001-90

Theory:

Principles of taxonomy. Study of various groups. Protozoa, porifera, coelenterates. Platyhelminthes. Molluses. Annelids, Arthropodes, Echinoderms.

Laboratory:

Study of protozoa, platyhelminthes and coelentera. Nematodes and echinoderms. Study of behaviour. Comparative functions. Taxonomy.

101-923-00 HUMAN PHYSIOLOGY I

3-3-1
Pre-requisite
101-001-90

Theory:

Physiology of bone, muscle and nerve tissue. Physiology of the nervous system. Physiology of sensory organs. Physiology of the endocrine system. Neuro-physiology of behaviour: thirst, hunger, sleep, sexual behaviour.

Laboratory

Histology of muscles and nerves. Sensory organs. Control of muscular contraction. Action of hormones. Dissection of the brain.

101-924-00 BIOGEOGRAPHY OF QUEBEC

3-1-2
Pre-requisite
101-001-90

Theory:

Bio-geographical regions of the world. Principles of distribution of living natures. Physical and biological factors. Adaptation, evolution and biological forms. Bio-geographical regions of Quebec. Soils, vegetation, fauna, human influence. Practical application and the future.

101-931-00 HUMAN PHYSIOLOGY II

3-3-1
Pre-requisite
101-001-90

Theory:

Functions of nutrition.

Physiology of the internal organs. Physiology of the circulatory system. Physiology of the heart. Physiology of the respiratory system. Physiology of the digestive system. Physiology of the excretory system. The reproductive function. Physiology of male and female reproductive organs.

Laboratory

Blood, coagulation, capillary circulation. Dissection and physiology of the heart. The human respiration curve. Properties of nutrients. Oogenesis and spermatogenesis. Physiology of circulation.

101-932-00 COMPARATIVE CHORDATE ZOOLOGY Pre-requisite
101-922-00

Theory

Principles of taxonomy. Study of the evolution of different systems by groups: chordates: pro-chordates and vertebrates. Evolution. General characteristics from cyclostoms to mammals.

Laboratory

Amphioxus. Dissection of a shark. Dissection of a perch. Amphibians and reptiles. Mammals.

101-933-00 PLANT BIOLOGY 3-3-1
Pre-requisite
101-001-90

Theory

Plant cytology and histology. Morphology and role of vegetative and reproductive organs. Plant physiology. Principles of classification. Study of a plant association. Relationship with environment and adaptation.

Laboratory

Study of the cell, of pigmentation. Circulation. Absorption, Respiration. Transpiration. Function of chlorophyll, taxonomy.

101-934-00 HUMAN BIOLOGY I 3-2-3

Human body
General description, functions, organs, topography of the human body.

Cytology
The human cell (composition, physiological properties, division).

Histology
General structure of a tissue, different varieties, membranes (description, varieties).

101-935-00 HUMAN BIOLOGY II 3-2-3

Osteology
Histology of bones. Comparative osteology. Arthrology. Pathology of bones and articulation.

Myology
Muscle histology. Muscles. General physiology and muscular contraction. Muscular pathology.

101-936-00 HUMAN BIOLOGY III 3-2-3

Digestive system
Associated glands. Physiology of digestion. Pathology of the digestive system. Circulatory system.
Blood: description and composition, coagulation and its role. Pathology of the circulatory system.

101-937-00 HUMAN BIOLOGY IV 3-0-2

Respiratory system
Division of respiratory tracts, lungs. Physiology of respiration. Pathology of the respiratory system.

Endocrine system
Endocrine glands, comparison of sexual characteristics. Pathology of endocrine glands.

Urinary system

Renal anatomy, renal physiology, anatomy and physiology of the urinary tract, urine, pathology of the urinary system.

Nervous system

Nerve cythology and histology, division of the nervous system (central, peripheric, vegetal).

Sensory organs

Skin and touch, eye and vision, ear and hearing, tongue and taste, nasal passages and smell. Pathology of the nervous system and of the sensory organs.

Reproductive system

Anatomy and physiology of male and female genital systems. Pathology of genital organs of both sexes.

101-938-00

RADIOLOGY

3-3-3

Radiation. Measurement of radiation. Maximum amount of exposure to radiation permissible for humans. Risks inherent in radiation. Origins of risks due to the use of radiation. Means of protection for patients, for persons regularly exposed to radiation, etc. Tracking down radiation. Electrical hazards. Basic principles of radiotherapy. Aim of radiotherapy. Qualities of X-rays. Deep treatment, tumour treatment, skin treatment, etc. Appropriate practical work.

101-941-00

MICROBIOLOGY

2-3-3

Theory

Historical outline. Characteristics of true bacteria. Anatomy and physiology. Systematic of bacteria. Study of micro-organisms other than true bacteria. Immunology.

Laboratory

Examination of bacteria in vivo and in vitro. Preparation of the principal culture media. Methods for isolating bacteria. Study and observation of antibiotics.

101-942-00 MICROBIOLOGY

2-3-3

Theory

Main groups in medical bacteriology. Applied bacteriology. Soil and water bacteria. Food and industrial bacteriology. Outline of virology. Principal parasites in the blood and intestines.

Laboratory

Identification of cocci and of coliform bacteria. Examination of smears of pathogenic bacteria. Identification of the most common blood and intestinal parasites.

101-951-00 INSTRUMENTAL BIOLOGICAL ANALYSIS

3-10-5
Pre-requisite
Physics
203-402-00
203-502-00
General and
analytical
chemistry.

Theory

Principles of photometry and colorimetry. Turbidometry and nephelometry. Fluorometry. Spectrophotometry. Chromatography: column, paper, gas, thin-layer and ion-exchange. Potentiometry.

Laboratory

Laboratory exercises with apparatus of which the theory has previously been presented.

101-952-00

INSTRUMENTAL BIOLOGICAL ANALYSIS

3-10-5
Pre-requisite
101-951-00

Theory

Electrophoresis: definition, amphoteric character. Electrical charges of proteins in relation to pH. Analysis and interpretation. Astrup's apparatus: basic concepts, biological aspects, interpretation of results. Radioactivity. The technicon.

Laboratory

Laboratory exercises with apparatus of which the theory has previously presented.

101-960-00

FORESTRY BOTANY

3-1-3

Historical outline. Plant geography and phyto-
graphy. Classification of the main groups of
forest plants. Study of the reproductive cycles.

101-961-00

DENDROLOGY

3-1-3

Morphology and classification of the principal
forest types: description, distribution and eco-
nomic value. Anatomy of wood: study of the ana-
tomical characteristics of different types of
wood. Macroscopic and microscopic characteris-
tics which help to identify the principal forest
types.

101-962-00 ZOOLOGY

3-1-3

- 1- Introduction. Principles of taxonomy: binominal nomenclature.
- 2- Study of different groups. In each group, anatomical study of a typical representative: protozoa (amoeba), porifera (sponges), coelenterates (fresh water hydra), platyhelminthes (tenia), aschelminthes (ascaris), molluscs (mya), annelids (earth worms), arthropods (lobsters), echinoderms (starfish).
Chordates: prochordates, vertebrates, different classes.
- 3- Comparative study of vertebrates. Skeleton systems. The various system: circulatory, digestive, respiratory. Concept of homology. Adaptation and evolution.

101-963-00 CYTOLOGY AND GENETICS

1-1-1

Theory

Definition. Instruments and techniques of cytology. Structure and function of the cell. Chemical composition of the cell. Properties of the cell. Cell pathology.

Laboratory

After acquainting himself with the principal instruments of cytology, the student makes a number of observations of single-cell organisms: bacteria, yeast, algae, then tissues of the animal and plant kingdoms. Observation of blood elements, of the phenomena of osmosis and enzymatic digestion. Study of cell components of cell division. Problems in genetics.

101-964-00 CYTOLOGY AND GENETICS

1-1-1
Pre-requisite
101-963-00

Theory

Chemical and functional organization of the nucleus. Cell division. Reproduction. Historical outline of genetics. Laws of genetics. Introduction to evolution.

Laboratory

After acquainting himself with the principle instruments of cytology, the student makes a number of observations of single-cell organisms: bacteria, yeast, algae, then on tissues of the animal and plant kingdoms. Observation of blood elements, of cell components of cell division. Problems in genetics.

101-970-00 PHYSIOLOGY

2-3-2

Theory

Definition. Characteristics of living matter. Organization of living matter. Basal metabolism. Physiology of the digestive and excretory system.

Laboratory

Study of living matter from the point of view of its chemical composition and its physical properties. Organization of living matter: cells, tissues and organs. Comparative study in various animals, of the digestive system and its physiology.

BIOLOGY

(101-) 11

101-972-00 PHYSIOLOGY

2-3-2
Pre-requisite
101-970-00

Theory

Respiratory system. Circulatory system, blood and lymph. Excretory system. Endocrine glands. Reproductive system. Nervous system. Sensory organs.

Laboratory

Dissection and comparative study, in various animals, of the respiratory circulatory, urino-genital and nervous systems, including sensory organs.

101-973-00 EXPERIMENTAL PHYSIOLOGY
101-974-00

0-3-2
0-3-2
Pre-requisite
101-970-00
101-972-00

Laboratory

This course prepares the student for work in experimental or research laboratories. Modern experimental methods in physiology and serology. Study of the influence of bacterial infections or certain drugs. Statistical curves. Elements of respiratory physiology.

101-981-00 HAEMATOLOGY

2-3-2

Theory

Normal haematology. Anatomy and physiology of the circulating fluid. Blood sedimentation and hematocrite. The phenomenon of coagulation: the principal factors in coagulation and anticoagulants. Haemoglobin and iron. Haemopoiesis.

Laboratory

Counting and observation of blood cells. Blood sedimentation and hematocrite, blood count. Study of blood hemolysis. Principal analyses related to blood clotting. Measurement of haemoglobin and iron in the blood.

101-982-00 HAEMATOLOGY

2-3-2
Pre-requisite
101-981-00

Theory

Pathological haematology. Principal causes of pathological variations in the number of blood cells. Haemorrhagic diseases. Elements of serology: physiology and application.

Laboratory

Blood smears: smearing and coloration. Study of normal leucocyte counts. Examination of pathological blood smears. Tests of blood compatibility. Some serological tests.

101-990-00 SPECIAL BIOLOGY

3-3-2
Pre-requisites
101-001-90
202-201-00

Biochemistry

Static: carbo-hydrates, lipids, proteins, enzymes hormones, biological oxydation. Dynamic: metabolism of carbohydrates, lipids, proteins. Transport of oxygen and carbon dioxide. Acid-base equilibrium. Water and electrolytes. Vitamins. Blood and lymph. Urine. Urine. Application to nursing.

Nutrition

Importance of rational feeding. Study of foods: composition, role, nutritive value, digestibility, effect of a deficiency. Elaboration of a diet according to Canadian food regulations. Adapting of nutrition to various ages.

Microbiology

Introduction: morphology, physiology, means of identification. Habitat, culture media, isolation. Immunology. Saprophytic and pathogenic micro-organisms. Means of defence of the organisms. Systematic microbiology: important clinical pathogenic bacteria. Antibiotic therapy. Chemical therapy. Virology: principal viruses of the human species. Parasitology. Micology. Demonstrations.

101-991-00 HISTOLOGY

2-2-2
Pre-requisites
101-963-00
101-964-00
101-970-00
101-972-00

Theory

Physiological data concerning certain laboratory animals. Surgical techniques. Histological techniques: sampling, function and coloration of the four primary tissues and their activity.

Laboratory

Surgical techniques for laboratory animals; microtome cutting and coloration.

101-992-00 HISTOLOGY

2-2-2
Pre-requisite
101-991-00

Theory

Histology of circulatory, tegumentary, digestive, respiratory, urinary, endocrine and reproductive systems.

Laboratory

Study through mounted preparations of the major systems of the higher organisms.

II

FORESTRY TECHNOLOGY

FORESTRY TECHNOLOGY

(110-) 1 - 4

Course outlines to follow.

III
NURSING

NURSING

(113-) 1 - 5

1968-9 Course outlines to follow.

Outlines will also be provided for certain specialized Biology courses, listed in Programme 6, but not yet incorporated in the Biology section.

IV
DENTAL TECHNOLOGY

DENTAL TECHNOLOGY

(114-) 1 - 8

Course outlines to follow

V

RADIOLOGICAL TECHNOLOGY

115-202-90 RADIOTHERAPEUTIC TECHNIQUE II 6-3-5

Equipment in therapeutic Radiology

Components and X-ray circuits. Main types of X-ray generator. Accessory equipment. Radio-activity. Considerations on transcutaneous therapy. Curietherapy. Special mode of treatment. Dosimetry in radiotherapy. Interaction of radiation with matter. Time-dose relationships.

115-302-90 RADIOTHERAPEUTIC TECHNIQUE III 6-0-2

Treatment planning

Isodose curves. Multiple fields. Rotational and pendular therapy. Mechanical aids. Interstitial curietherapy. (Ra., Rn., Au., Ta., Co., Ir.) Intra-cavitary curietherapy. Radiation hazard. Exposure sources. Levels of radiation normally received. International recommendations. Control of radiation. Rules regarding the use of radioactive elements.

115-402-90 RADIOTHERAPEUTIC TECHNIQUE IV 6-0-2

Radiography for therapy technicians

Basic knowledge of photography. Basic technique in radiography. Film processing technique. Radiographic and fluoroscopic technique. Radiography techniques applied to therapy.

115-502-90 RADIOTHERAPEUTIC TECHNIQUE V 6-0-2

Applied Radiotherapy

General principles. Pathology of tumors: benign and malignant. Functional disturbances.

115-512-00 RADIOTHERAPEUTIC TECHNIQUE VI 12-6-4

115-602-00 RADIOTHERAPEUTIC TECHNIQUE VII 3-3-2

Other methods of treatment of malignant lesions. Surgery. Hormones. Chemotherapeutic agents.

115-612-00 RADIOTHERAPEUTIC TECHNIQUE VIII

12-0-6

Surgery

Radical, e.g. gastrectomy. Combined with radiotherapy, e.g. post-mastectomy, craniotomy, etc.
Palliative. Reconstructive surgery.

Hormones

Estrogens and androgens. Castration in relation to the administration of hormones. Use of hormones in menopause. Palliative nature of the hormone therapy. Adrenalectomy. Hormones from the venal glands. Cortisone, prednisolone, meticorten, etc. Application of hormonal therapy to the treatment of cancer of the breast, the prostate, leukemia, etc.

Chemotherapeutic agents

Radiomimetic agents. Nitrogen mustard derivative. Anti-metabolic. Anti-mitotic.
Clinical use and application of these agents should be discussed with regard to the expected results from their use. Give the indications and contraindications of the use of this form of treatment: mention the complications stemming from the administration of such agents, so that the technician may become a knowledgeable observer.

115-103-00 RADIOISOTOPE TECHNIQUE I

3-3-3

Introduction and orientation. Atomic Physics. Nuclear and radiation physics. General laboratory techniques in radioisotopes. Applied physiology and pathology with relevant isotopic procedures.
Recent advances. Primary development of atomic theory and basic chemistry laws which have led to the construction of the periodic table of elements. Bohr's theory of the atom and quantum. Atomic structure, isotopes, mass number, etc.
X-Rays. The nucleus, the energy levels of the nucleus. Radio-activity: half lives. Nuclear reactions, reaction energy, mass energy.
Fission. Modes of radioactive decay. Disintegration scheme. Interaction of radiation with matter. Radioisotope production (reactor, accelerator, neutrons generator, natural production of isotopes). Commercial availability of radioisotopes.

115-203-90 RADIOISOTOPE TECHNIQUE II 6-3-5

Instrumentation

Radiation detectors (instruments, units and detectors). Survey equipment. Statistics, radioisotope measurement and counting scattered radiation. Calibration procedures.

115-303-00 RADIOISOTOPE TECHNIQUE III 9-0-3

Isotope laboratory technique

Laboratory apparatus: centrifuge, balance, haematocrites and their use. Dilution technique. Basic bacteriology and sterile technique.

115-403-00 RADIOISOTOPE TECHNIQUE IV 9-0-4

Physiology and pathology.

Basic haematology: chemistry of metabolic processes, application of radioisotopes. Specific studies in the use of radioisotopes.

115-503-90 RADIOISOTOPE TECHNIQUE V 6-3-2

A- General techniques for the radioisotope laboratory
Laboratory apparatus and glass ware, centrifuge, incubator, waterbaths, balance, haematocrite lectures.
Remote control equipment.
Pipetting and dilution methods, series dilution included. Basic bacteriology and sterile technique.

B- Physiology and pathology.
Use of radioisotopes. Radioisotope dosage. Dose preparation for therapeutic and diagnostic purposes.
Administration of radioisotopes.
Special studies in the use of radioisotopes.
Study in the use of radioactive colloids.

115-603-90 RADIOISOTOPE TECHNIQUE VI 6-3-2

Radiodetection. Accessories. Radiometry. Scanning. Photography. Fluorescence. C.M. counting. Find the plateau of a C.M. and its balance point. Tracing the curve of electronic noise of a C.M. tube. Tracing the curve of a scintillator. Calibration of a discriminator. Calibration of a channel analyser. Finding the resolution of a scintelator. Analyse the spectral emission of a radioisotope. Scanning making. Tracing the curves of isosensibility of a probe with different collimeters. Inverse square law. Measurement of half life of radioisotope materials. Calibration of a source. Checking the correct functioning of a system.

115-504-00 RADIOISOTOPE SCANNING 3-0-2

115-604-00 RADIOISOTOPE SCANNING 3-0-2

115-508-00 TERMINOLOGY I 3-0-2

Root of anatomical terms. Embryology. Osteology. Arthrology. Muscular and skeletal systems. Digestive system. Respiratory system. Lymphatic system. Nervous system. Endocrine glands.

115-608-00 TERMINOLOGY II 3-0-2

Radiological anatomy, anatomic terms.

115-509-00 CONTACT THERAPY I 3-0-2

115-609-00 CONTACT THERAPY II 3-3-2

Implant therapy.

Basic notions, isodose curves. Depth dose. Tables.

Combinations of the primary beams

Opposing beams. Influence of the thickness of separation and the quality of radiation. Beam angulation. Three beam systems. Multiple beams. Corrections for irregular surfaces and tissue density. Use of bolus and compensatory filters. Use of wedge filters. Combination of beams using wedge.

Rotational and pendular therapy

Tissue/air relationship. Treatment planning and the use of this relationship. Influence of contour, angle of rotation, centre of rotation on the distribution of insodose curves.

Treatment planning

Use of tissue/air relationship in the angulation of a fixed source. Distribution of a test dose in certain special cases. Problems concerning the calculation of exposure doses necessary to fill the prescription for the plan given.

Mechanical aids

Trunk bridge. Plaster molds. Immobilization devices. Pin and arc. Localization methods.

620-00	PEDIATRICS I	626-00	NEUROLOGY I
621-00	PEDIATRICS II	627-00	NEUROLOGY II
622-00	CARDIOLOGY I	628-00	SURGERY I
623-00	CARDIOLOGY II	629-00	SURGERY II
624-00	ORTHOPEDICS I	630-00	OBSTETRICS I
625-00	ORTHOPEDICS II	631-00	OBSTETRICS II

Courses 620 - 631, distribution of work-load: 3-0-2

115-911-00 APPLIED RADIOTHERPY 3-3-2

Aim or objective of the use of ionizing radiation in medicine: in malignant tumors, in benign tumors, in inflammatory lesions, in malfunctioning systems. Reasons for the choice of treatment. Malignant tumors. Benign lesions, which are often to be treated by radiotherapy.

VI
PHYSICAL EDUCATION

Aims (1)

At this level, three aims should be set:

1. Physical development, based on the individual degree of physical maturity;
2. The development of habits and a healthy attitude towards the practice of physical training;
3. Psychological and social development of the individual.

Method

The type of organization described, the characteristics of the programme presented and the maturity of the student require a method which encourages freedom of choice and commitment on the part of the individual.

The instructor will therefore employ a very flexible kind of teaching, although he must make his requirements clearly understood. Teaching procedures will be in accordance with this approach.

Activities

1. Conditioning

30 periods

Physical exercises designed to improve the condition of organs and muscles.

Students must take, in the first and third terms (men) or the second and fourth terms (women), one period per week of conditioning.

The kind of activity laid down will be related to the major weaknesses commonly observed in most students at this level.

(1) It has been considered appropriate, in the special case of Physical Education, to give details here which would normally belong to the syllabus.

2. Individual activities and sports

60 periods

Forms of activity based to a greater degree on the inclination of the individual, making for the development of specific aptitudes and the growth of physical, mental and social qualities.

In each term, the student will take part in an individual sport.

The range of activities suggested will be in keeping with the present and future state of sport in Quebec, the climate, which affects the practice of certain activities, and the need for variety which a sensible programme of physical education should offer at this level.

Activities suggested:

Track and field, badminton, American hand-ball, cycling, fencing, creative movement, golf, gymnastics, weight-lifting, judo, wrestling, swimming, figure skating, diving, eurhythmics, skiing, squash, tennis.

Distribution of activities by term:

-Men: Terms I and III:

Badminton, American hand-ball, fencing, gymnastics, weight-lifting, judo, wrestling, swimming, squash.

Terms II and IV:

Track and field, American hand-ball, cycling, golf (term IV only), judo, swimming, diving, skiing, squash, tennis.

-Women: Terms I and III:

Badminton, fencing, creative movement (term III only), swimming, figure-skating, eurhythmics.

Terms II and IV:

Track and field, fencing, creative movement (term IV only), golf, gymnastics, swimming, diving, eurhythmics, skiing, tennis.

3. Team_sports

30 periods

Since individual activity should not be the sole feature of the programme, the student should be directed also towards activities where he can prove himself as a mature and well-balanced individual.

The choice of two team-sport activities will enable the student not only to complete, through more advanced techniques, his high-school experience, but also to satisfy social needs of which he has become aware at that level.

Suggested activities:

Basket-ball, volley-ball, European hand-ball, hockey, water-polo, soccer.

Distribution by term:

-Men: Terms I and III:

Basket-ball, volley-ball, hockey.

Terms II and IV:

European hand-ball, water-polo, soccer.

-Women: Terms I and III:

Basket-ball, volley-ball, European hand-ball.

Terms II and IV:

Nil.

Notes

1. It should be noted that at least one of the six sporting activities required should be a water sport, selected during one of the first three terms.

2. The same activity may be selected more than once in the four terms, with the exception of conditioning and track and field where course content extends over two terms.

3. The sports medical examination, provided that it is made compulsory, will be a decisive factor in the choice of activities; it should be further noted that the results of these examinations and the services offered in this area will have an effect on the attendance in the academic programme as a whole.

4. Some activities may be offered to mixed groups; others may be selected by both sexes but be held separately, and, finally, some, because of their special character, will have to be reserved for one or other sex only.

5. Hockey (men) and skating (women) can only be offered if a covered artificial rink is available.

Conclusion

The total activity carried on during the compulsory periods (two per week) should be rounded out by voluntary participation of all in one of the two complementary phases of the programme: intra-mural and intercollegiate activities.