



HULL ADULT EDUCATION CENTRE

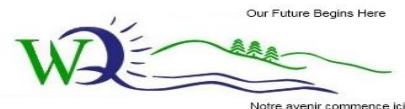
STANDARDS AND PROCEDURES

For

EVALUATIONS FOR CERTIFICATION

And

COURSE SYLLABUS



SUBJECT/DEPARTMENT: Mathematics

TEACHERS RESPONSIBLE FOR EXAM INVIGILATION:

David Hetherington, Michelle Wismer, Darren Hataley

STANDARDS IN ORDER OF THE ASSESSMENT PROCESS¹

STEP 1 : PROCEDURES BEFORE THE EXAM

1.1 Criteria/evidence of support learning required for student to write the evaluation for certification: > 75% on pre-test

1.2 Special exam conditions²:

- The centre's administration is authorized to implement the measures below for adults with special needs. A report analyzing the adult's situation must be included in the adult's file. The relevance of the measure in terms of the adult's specific need, as recognized by WQSB complementary services personnel, must be indicated in the adult's file.
- The adult must use this measure regularly and the adult must have been involved in the decision to use this measure.
- A tool must never perform the task for the adult.
- The adult must be continuously monitored so that it can be confirmed on his or her final copy that he or she has used the authorized measure.
- Extending the time allotted for the examination by up to one third of the time normally allowed. The examination must, however, be administered in a single day and certain

¹ LOOK FOR ANY SANCTIONS RELATED TO "GEA" (GENERAL EDUCATION ADULT) IN *Administrative Guide for the Certification of Studies and Management of Ministerial Examinations*, Chapter 4 "Evaluation of Scholastic Learning" and Chapter 5 "Support Measures for the Evaluation of Learning" in http://www.education.gouv.qc.ca/fileadmin/site_web/documents/dpse/sanction/Guide-sanction-2015_ang.pdf

² Refer to 5.2.2 "Support Measures" in *ibid.*
or 5.2.2 "Mesures d'adaptation pour l'évaluation des apprentissages" *Guide intégré 2015*

arrangements must be made to ensure that the time is extended without the adult coming into contact with other adult learners during lunchtime or breaks.

- Allowing the presence of an attendant (interpreter, invigilator, etc.) who provides the adult with the necessary assistance relative to the specific needs identified in the adult's file. The attendant must not ask any leading questions, clarify questions by explaining them, make suggestions that might influence the adult's answers, correct spelling or grammar or make any changes whatsoever to the adult's answers.
- The attendant may read an examination to the adult
- Allowing adults to use various writing implements.
- Allowing adults to give their answers using a tape recorder.
- Allowing adults to use a reading aid such as a monitor, magnifying glass or inclined reading stand.
- Allowing adults to take the examination in an isolated location, with supervision

1.3 Identification of the student's name and date of examination on all student booklets and mark summaries of all exams.

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1.4 Student's name MUST appear on course attendance list on the date s/he writes the course exam. DAVID HETHERINGTON, MICHELLE WISMER, DARREN HATALEY

1.5 Sequencing of exam parts: No

1.6 Prescribed time for administering exams Dependent on the specific exam requirements. Stated on the exam itself

- **Procedures to follow if exam is longer than 120 minutes:** Teacher stays with student

1.7 Exam only conditions, if applicable: If formally requested, and student has acquired the competencies set up as the course objectives.

1.8 Confidentiality of materials:

Designated area(s) for exam writing: All exams to be evaluated are done in immediate proximity to and under the direct supervision of the teacher in charge.

1.9 Theft or disappearance of :

Ministerial Exam Materials:

Should a ministerial examination be stolen, the educational institution must:

- promptly notify the person in charge of the certification of studies and administration of ministerial examinations of the situation
- promptly notify the director of the Direction de la sanction des études, who, after discussion with the educational institution, will decide on the immediate course of action
- send a written report to the director of the Direction de la sanction des études describing the causes and circumstances of the theft

- When a breach in confidentiality is brought to the attention of a staff member of a school or centre, use of this ministerial examination for the purposes of evaluation of learning must stop immediately.

Local Exam Materials:

A written report will be sent to the Centre Director, and then the exam will be altered.

STEP 2: Procedures DURING THE EVALUATION PROCESS

2.1 Authorized materials allowed during examinations: officially sanctioned memory aids, calculator, geometry set, pencils, pens, eraser

2.2 Use of electronic devices and cellphones: No cellphones or laptops are allowed

2.3 Academic offences

- Plagiarism: This is not applicable to mathematics examinations
- Cheating:

When a candidate is discovered cheating or deliberately assisting another person, his or her copy is confiscated and s/he is asked to leave the room. The fail code or mark of 0 will be transmitted to the Ministry. The Centre will then determine whether or not, and under what conditions, the evaluation may be retaken. The student may be suspended from the Centre subject to administrative discretion.

STEP 3: Procedures AFTER THE EVALUATION PROCESS:

3.1 Materials to be collected from student: Exam booklet and any worksheets

3.2 Marking and recording exam results: Exams will be marked in accordance with the rules for each examination. Correction keys will be used in their entirety and observation and marking instructions from the examiner's booklet will be followed.

3.3 Copyright procedures for exam materials, if applicable:N/A

3.4 Student performance criteria (e.g. Pass/Fail; 60% overall; 60% each part):
Pass/Fail 60%

3.5 Transmission of results:

Deadline for transmission to office: **within 5 days from exam completion**

Format of Academic Results sheet: **HAEC "Student Results" Template**

Failure: **Record failing grade and indicated course to be taken again**

Course Complete: **Record passing grade and indicate next course**

Abandon: **AD**

3.6 Confidentiality of results:

Sharing of results with student:

- At no time will examinations (current or obsolete) be used as evaluation to support learning or as classroom practice exercises or for pretest purposes.
- No information related to the content of the examinations will be divulged to students before the examinations are administered.
- In order to ensure the integrity of the examinations, copies of examinations and related materials (e.g. answer sheets, work sheets, evaluation forms) must never be corrected, shown, given to students or reviewed in their presence after a ministerial examination has been administered. This is to ensure confidentiality and equity of the evaluation in the event that it is used again for a retake, as there are a limited number of versions of examinations available.
- Exams will be carried in sealed envelopes or boxes and stored in a locked cabinet.
- Teachers will inform the student of his or her results and advise which evaluation criteria they have failed without compromising the confidentiality of the exam.

3.7 Storage of WRITTEN EXAMS

Storage location of marked exams: Filing cabinet located in Administration Office

Length of time to store written exams: 3 years

Shredding/disposal of written exams: For exams older than 3 academic school years, shredding is done annually at the end of school year by a certified company.

Step 4: Procedures FOR EVALUATION RETAKES

4.1 Entitlement to retakes: If exam has been failed a retake can be done after successfully completing another pre-test. Student may only do a retake to improve their mark if they can provide written proof that they need a higher mark in order to enter into the post-secondary program they have chosen to pursue.

4.2 Remediation process before first, second, third retake: Review and successful completion of a pre-test

Teachers responsible for preparing HAEC Standards & Procedures:

School Year: 2017-2018

Name(s): David Hetherington, Michelle Wismer, Darren Hataley

Signatures: _____

Director: Mr. Scott Cavers

Date: August 30th, 2017

ADULT EDUCATION MATHEMATICS COURSE DESCRIPTIONS

There are two programs in Adult Education Mathematics:

- **Common Core Basic Education**
- **Diversified Basic Education**

Diagnostic and placement tests as well as other accreditation information are used to determine what program and what courses best meet a student's needs, goals and requirements.

- Through various real-life learning and evaluation situations (LES) offered in each course, students will work individually with the teacher to develop skills in the three major math competencies:
- Competency 1: Using strategies to solve situational problems
- Competency 2: Using mathematical reasoning
- Competency 3: Communicating by using mathematical language
- At the end of each course, students will write a final (2 or 2 and a half hour) evaluation situation (ES) to demonstrate competency in Communication, Thinking Logically and Exercising Critical and Ethical Judgement
- Pass mark for each exam is 60%
- The length of a course varies from 25 hours to 50 hours (including the examination time)

COMMON CORE BASIC EDUCATION MATHEMATICS

This program is comprised of

Cycle 1: Sec 1 and 2

The courses in this program are centred on classes of real-life situations, each of which deals with common themes that involve mathematics. These situations require adults to solve everyday problems, while building their mathematical knowledge and developing certain operational competencies that are useful for dealing with the real-life situations being examined.

The mathematics courses in this program can be divided into two groups:

- 1. Managing Finances : MTH 1101-3**
- 2. Establishing Relationships between Quantities: MTH 2101-3**

At the end of each course adult learners will be able to do the following:

MTH 1101-3 Finance and Arithmetic

- Interpret and produce information on everyday finances and perform calculations involving amounts of money.
- Make appropriate use of arithmetic language.
- Make deductions and inferences based on the meaning of arithmetic operations, the various types of rational numbers, and direct and inverse proportionality relationships.

MTH 2101-3 Algebraic Modelling

- Use algebraic language correctly, infer relationships between quantities and make deductions based on algebraic models.
- Convert specific relationships into algebraic form where necessary
- Generalize an algebraic model expressing relationships that apply in different cases.
- Interpret various simple models and determine unknown values in concrete situations using models that can be written as equations with a single unknown.

DIVERSIFIED BASIC EDUCATION MATHEMATICS

This program is comprised of

Cycle 2: Sec 3

Cycle 3: Sec 4 and 5

The courses in this program provide unique opportunities to develop rigour, reasoning ability, intuition, creativity and critical thinking skills through systematic observation, questioning, experimentation and the use of the languages of mathematics, science, technology and computers. Mastery of these languages enables adult learners to process information and find relationships among data, while interpreting, analyzing and managing situational problems fosters critical judgment.

The subject-specific content of the Mathematics program in Diversified Basic Education groups together resources that are essential to using and developing the competencies associated with this discipline. The mathematics courses in this program can be divided into four groups:

- 1. Algebraic and Graphical Modelling**
- 2. Data Collection or Vote Distribution Models and Random Experiments**
- 3. Geometric Representation**
- 4. Optimization**

Throughout their Secondary III, IV and V mathematics education, adult learners will explore the prescribed families of learning situations briefly explained below:

MEASUREMENT AND SPATIAL REPRESENTATION

- This family consists of situational problems that involve providing a geometric representation of an object, a physical space, a transformation or a geometric locus.
- These situations are aimed at helping adult learners develop spatial representation skills.

For example: Adult learners draw up a list of constraints related to the situation by consulting Web sites as needed.

RELATIONSHIP BETWEEN QUANTITIES

- This family consists of situational problems that can be represented using a graphical or algebraic model that expresses a relation or a dependency relationship between quantities.
- Representation sometimes involves a functional model.
- For example: Adult learners select relevant information to determine the relationship between the amount set aside to pay back a debt (dependent variable) and the interest rate (independent variable).

At the end of each course adult learners will be able to do the following:

MTH 3051-2 Algebraic and Geographical Modelling

- Use algebra to represent concrete situations in accordance with the rules and conventions of mathematics.
- Algebraically or graphically represent a situation using a first-degree function or a rational function and deduce results through interpolation or extrapolation.
- Use different registers of representation to generalize a model so it can be applied to a range of situations.

MTH 3052-2 Data Collection

- Use data collection as a tool
- Compare the results of a statistical experiment using different instruments to validate their observations of a problem that they themselves have identified.
- Present the results of their analysis in accordance with the rules and conventions of mathematics.
- Use problem-solving strategies to determine the most appropriate solution.
- Use mathematical reasoning to interpret probability data resulting from a random experiment and make decisions.

MTH 3053-2 Geometric Representation

- Use different types of solids or planes to represent and describe an object or a physical space in accordance with the rules and conventions of mathematics.
- Use different strategies and types of reasoning in planning the organization of a physical space, taking into account the different constraints of the situational problem.

MTH 4151-1 Algebraic and Graphical Modelling in a General Context

- Use algebra to represent concrete situations.
- Produce clear and accurate work in accordance with the rules and conventions of mathematics.
- Algebraically or graphically represent a situation using real functions and their inverse and deduce results through interpolation or extrapolation.
- Use different registers of representation to generalize a model so it can be applied to a range of situations.

MTH 4152-1 Data Collection in a General Context

- Collect data and compare other, similar sets of data when solving a problem that they themselves have defined.
- Present the results of their analysis in accordance with the rules and conventions of mathematics.
- Use problem-solving strategies to make the best decisions and determine the most accurate solution.
- Use mathematical reasoning to interpret statistical information resulting from the collection of data.

MTH 4153-2 Geometric Representation in a General Context 1

- Use the properties of congruent or similar figures and trigonometric relations to represent and describe an object or a physical space.
- Use different strategies and types of reasoning to manage various situations in accordance with the mathematical rules and conventions used in geometry.

MTH 4161-2 Algebraic and Graphical Modelling in an Applied Context 1

- Use algebra to represent concrete situations and produce clear and accurate work in accordance with the rules and conventions of mathematics.
- Algebraically or graphically represent a situation using real functions or their inverse and deduce results through interpolation or extrapolation.
- Use different registers of representation to generalize the similar characteristics of a range of situations.

MTH 4162-2 Data Collection in an Applied Context

- Collect data and compare other one- or two-variable distributions when solving a problem that they themselves have defined.
- Present the results of their analysis in accordance with the rules and conventions of mathematics.
- Use problem-solving strategies in order to determine the most efficient solution.
- Study situations consisting of several interrelated variables and constraints and draw on the concept of conditional probability to simulate a simple model for predicting outcomes.

MTH 4163-2 Geometric Representation in an Applied Context 1

- Use different metric and trigonometric relations to represent and describe an object or a physical space in accordance with the mathematical rules and conventions used in geometry.
- Use different strategies and types of reasoning to organize a physical space, taking into account different constraints.

MTH 4171-2 Algebraic and Graphical Modelling in a Fundamental Context 1

- Use algebra to represent concrete situations.
- Produce clear and accurate work in accordance with the rules and conventions of mathematics. Algebraically or graphically represent a situation using real functions and their inverse.
- Employ inductive or deductive reasoning to obtain results through interpolation or extrapolation.
- Use different registers of representation to generalize results and extend them to other situations.

MTH 4172-2 Data Collection in a Fundamental Context

- Collect and compare data pertaining to one- or two-variable distributions in order to answer a question related to a problem that they themselves have defined.
- Present the results of their analysis in accordance with the rules and conventions of mathematics.
- Use problem-solving strategies to determine the most efficient solution.
- Conduct an experiment using technological tools to test the way that they use statistical analysis to deal with a situation.

MTH 4173-2 Geometric Representation in a Fundamental Context 1

- Use different metric or trigonometric relations to represent and describe an object or a physical space in accordance with the mathematical rules and conventions used in geometry.
- Use different strategies and types of reasoning to organize a physical space in accordance with certain constraints.

MTH 5150-2 Optimization in a General Context

- Use half-planes, weighted and directed graphs, or similar, congruent or equivalent figures to represent concrete situations.
- Produce clear and accurate work in accordance with the rules and conventions of mathematics. Make decisions with optimizing situations using systems of first-degree inequalities, inference functions (graphs) or calculations involving geometric data.
- Use different registers of representation to generalize results and extend them to other situations.

MTH 5152-1 Vote Distribution Models and Random Experiments

- Conduct a comparative analysis of social choice models so that they can make the fairest possible decisions in a given context.
- Present the results of their analysis in accordance with the rules and conventions of mathematics, and determine the most efficient solution using problem-solving strategies.
- Interpret probability data from a random experiment and make decisions that reflect their mathematical reasoning.

MTH 5153-1 Geometric Representation in a General Context 2

Use different strategies and types of reasoning to solve situational problems with equivalent or congruent figures to accurately represent or describe a geometric transformation in accordance with the rules and conventions of geometry.

MTH 5160-2 Optimization in an Applied Context

- Use linear programming to solve situational problems involving optimization.
- Distinguish between explicit and implicit information
- Plan their solution based on the steps in the simplex method
- Apply their solution (process and outcome) taking constraints into account, and validate it according to the context of the situation.

MTH 5161-2 Algebraic and Graphical Modelling in an Applied Context 2

- Use different functions, including the sinusoidal function, to represent concrete situations. Produce clear and accurate work in accordance with the rules and conventions of mathematics. Algebraically or graphically represent a situation using real functions and operations on real functions.
- Employ inductive reasoning to obtain results through interpolation or extrapolation.
- Use different registers of representation to generalize results and extend them to other situations.

MTH 5163-2 Geometric Representation in an Applied Context 2

- Use trigonometric relations, the properties of equivalent figures and metric relations in circles to describe and represent geometric transformations.
- Use matrices and analytic geometry to algebraically model certain geometric transformations of objects.
- Describe, represent and generalize certain characteristics of geometric loci in the Cartesian plane using vectors in accordance with the mathematical rules and conventions employed in geometry.

MTH 5170-2 Optimization in a Fundamental Context

- Represent optimization situations.
- Produce clear and accurate work in accordance with the rules and conventions of mathematics. Address limiting solutions as well as solutions that are integers when the situation refers to a discrete case or when one of the limits is a point on the grid.

MTH 5171-2 Algebraic and Graphical Modelling in a Fundamental Context 2

- Use algebra to represent concrete situations.
- Produce clear and accurate work in accordance with the rules and conventions of mathematics. Algebraically or graphically represent a situation using real functions and their inverse.
- Employ inductive or deductive reasoning to obtain results through interpolation or extrapolation.
- Use different registers of representation to generalize results and extend them to other situations.

MTH 5173-2 Geometric Representation in a Fundamental Context 2

- Use trigonometric relations, the properties of equivalent figures and metric relations in circles to describe and represent geometric transformations.
- Use matrices and analytic geometry to algebraically model certain geometric transformations of objects.
- Describe, represent and generalize certain characteristics of geometric loci in the Cartesian plane by using vectors in accordance with the mathematical rules and conventions used in geometry.

MTH 5151-1 Algebraic and Graphical Modelling in a General Context 2

- Represent concrete situations using exponents or logarithms to analyze economic (e.g. personal finances), social, technical and everyday situations.
- Produce clear and accurate work in accordance with the rules and conventions of mathematics. Algebraically or graphically represent a situation using real functions and operations on these functions to induce results through interpolation or extrapolation.
- Interpolate or extrapolate using a table of values, a graph or algebra when the algebraic rule is given.
- Use different registers of representation (tables of values, graphs or algebraic rules) to generalize a model so that it can be applied to a range of situations.

MTH 5154-2 Financial Mathematics in a General Context

- Understand financial language and use calculation tools related to financial mathematics to evaluate different investment proposals and choose the most suitable one.
- Create a financial plan tailored to a particular situation.

MTH 5164-2 Sequences and Series in an Applied Context

- Apply their knowledge of first- or second-degree polynomial functions, exponential functions and logarithmic functions, and to solve situational problems involving arithmetic or geometric sequences and series.
- Algebraically or graphically represent a situation using real functions.
- Induce results through interpolation or extrapolation using a table of values, a graph or algebra when the algebraic rule is given.
- Use different registers of representation (tables of values, graphs or algebraic rules) to generalize a model so that it can be applied to a range of situations described by sequences and series.