

# Senior High Mathematics in Nova Scotia Schools

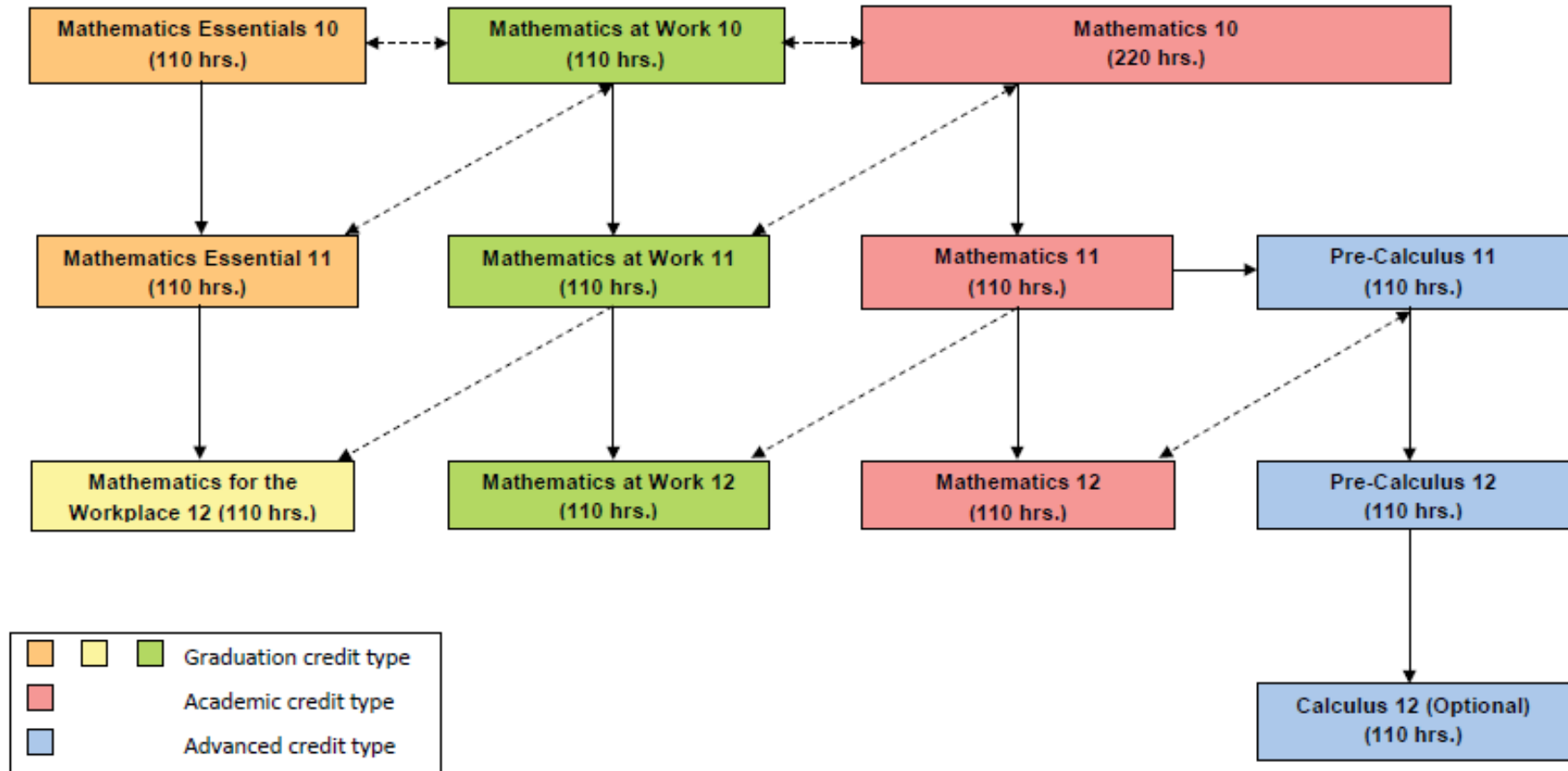




# Implementation Schedule for High School

Course	Date of Implementation
Mathematics at Work 10	September 2013
Mathematics 10	
Mathematics at Work 11	September 2014
Mathematics 11	
Pre-Calculus 11	
Mathematics at Work 12	September 2015
Mathematics 12	
Pre-Calculus 12	

# Senior High Mathematics: Common Pathways





# Information about these Pathways

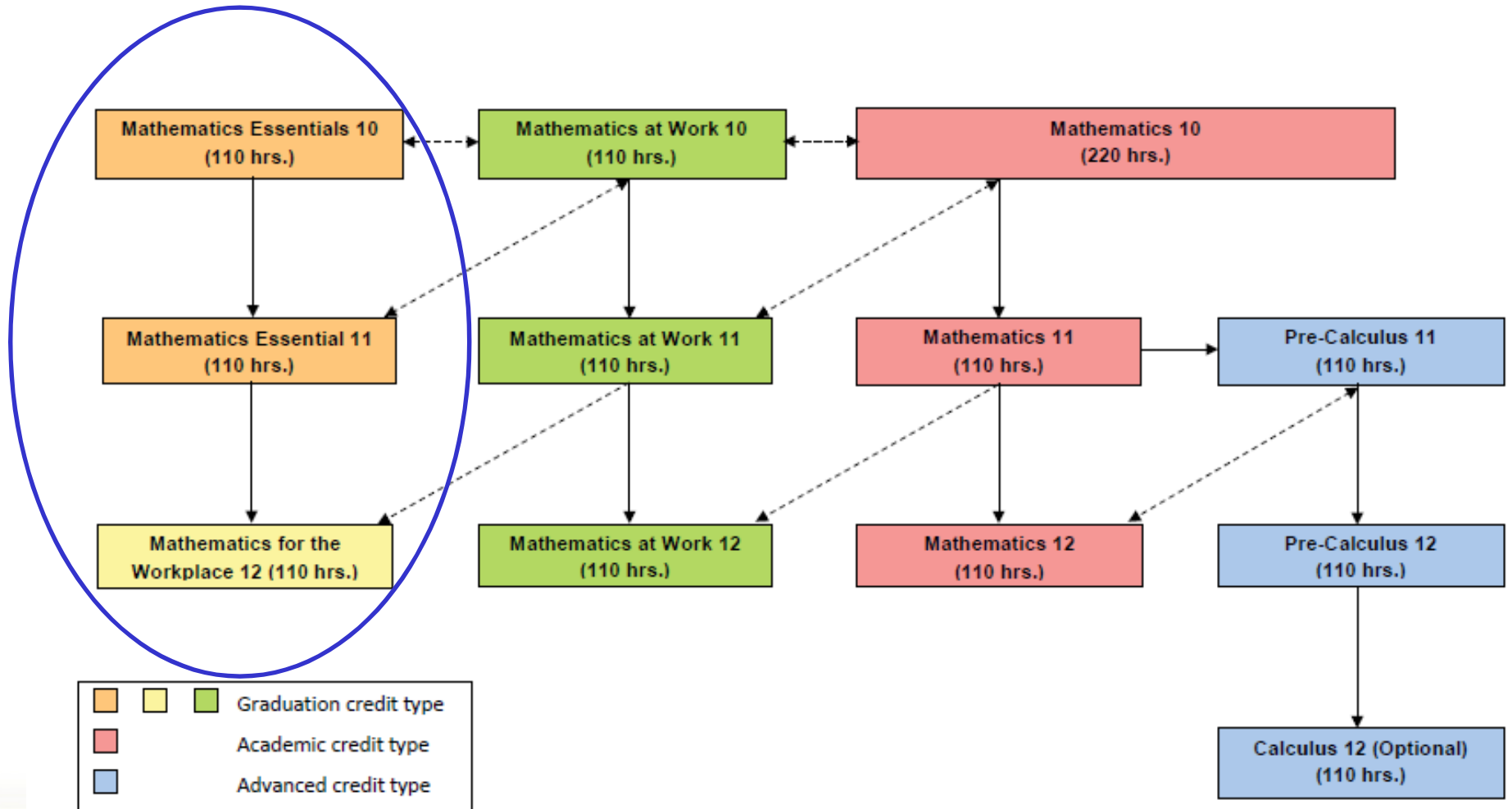
- The three grade 10 pathways should have the same rigour-different mathematics. (High expectations for all students!)
- The content, understanding, and skills vary among the pathways.
- After completion of Mathematics 11, students have the choice of an academic or Pre-Calculus pathway.
- Each pathway prepares students for different options after high school.



# Considerations for these Pathways

- When choosing a pathway, students should consider their mathematical knowledge and background, interests, and future education and career paths.
- Post-secondary programs of study have different mathematics prerequisites and admission requirements. Students and their parents should carefully investigate these prerequisites and requirements when selecting senior high courses.

# Senior High Mathematics: Common Pathways

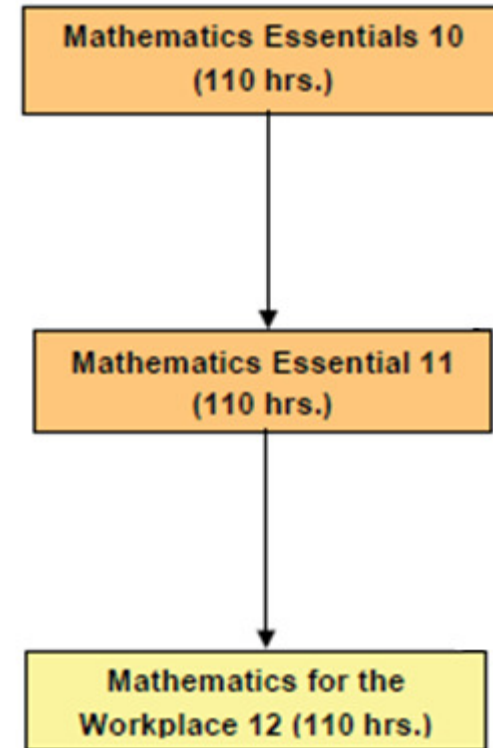




# Mathematics Essentials Pathway

Mathematics Essentials courses are designed to provide students with the development of the skills and understandings required in the workplace, as well as those required for everyday life at home and in the community.

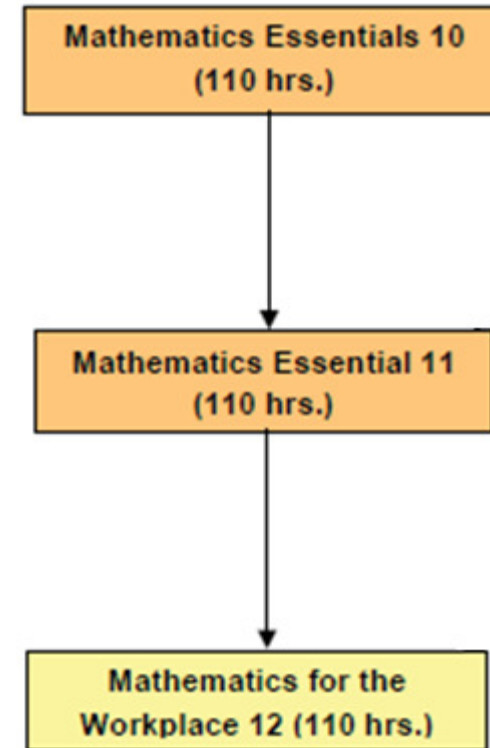
Students will become better equipped to deal with mathematics in the real world and will become more confident in their mathematical abilities.





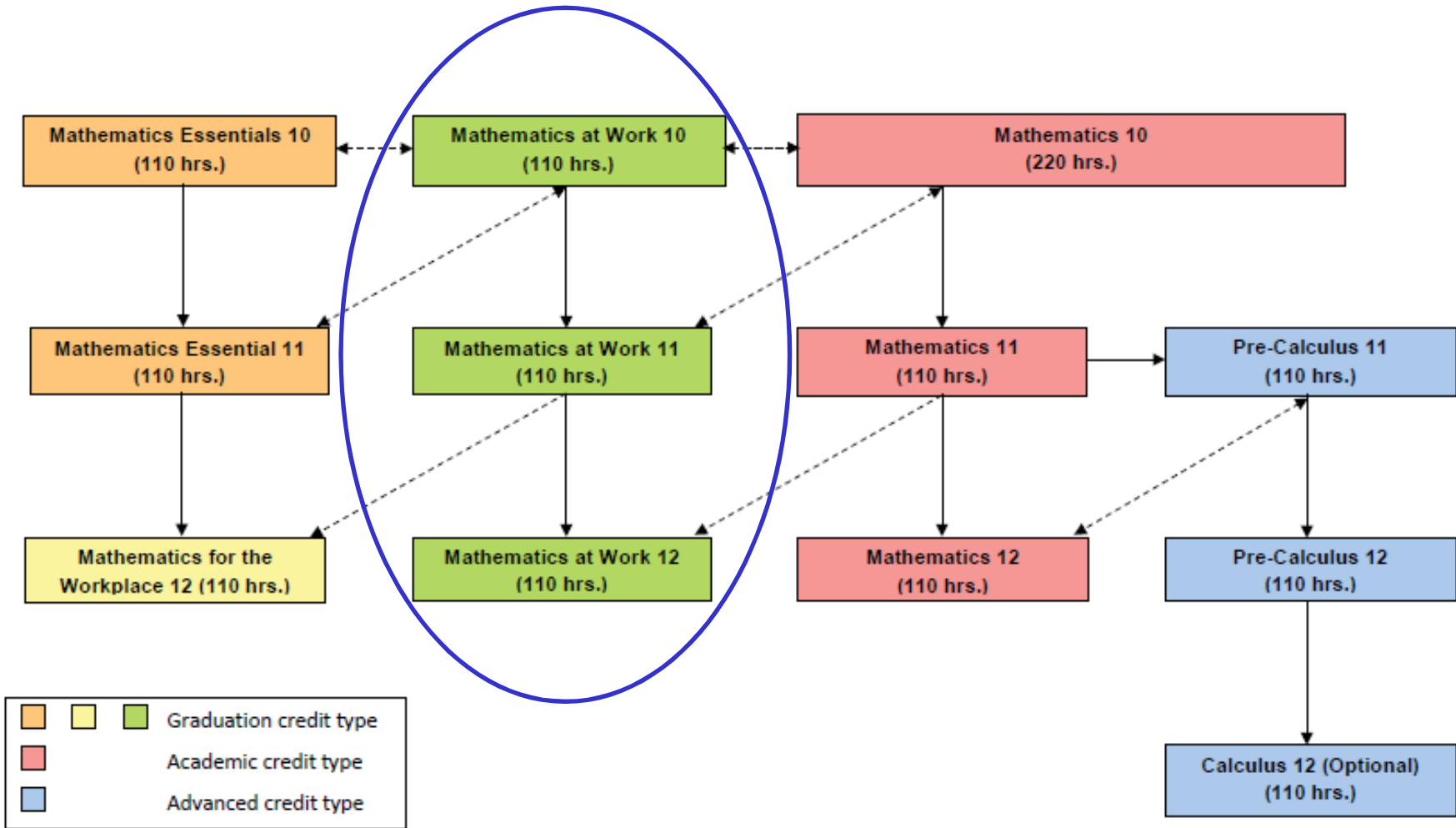
# Mathematics Essentials Pathway

The typical pathway for students who successfully complete Mathematics Essentials 10 is Mathematics Essentials 11 followed by Mathematics for the Workplace 12.





# Senior High Mathematics: Common Pathways

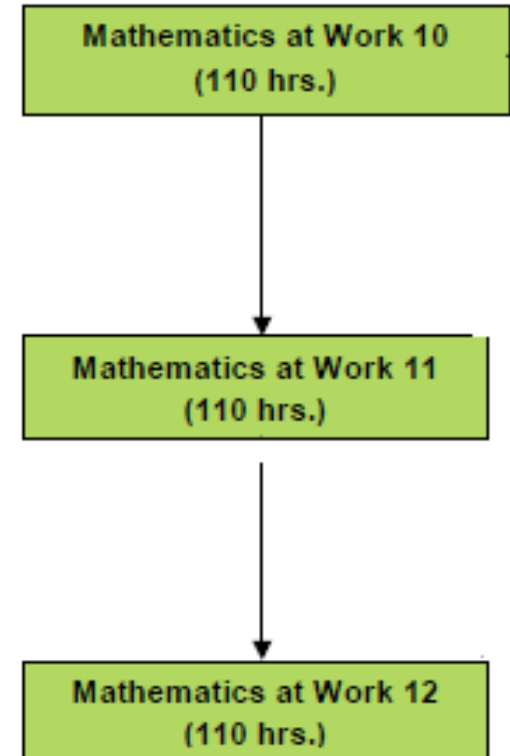




# Mathematics at Work Pathway

This pathway consists of three newly designed courses and replaces the Mathematics Foundations Pathway

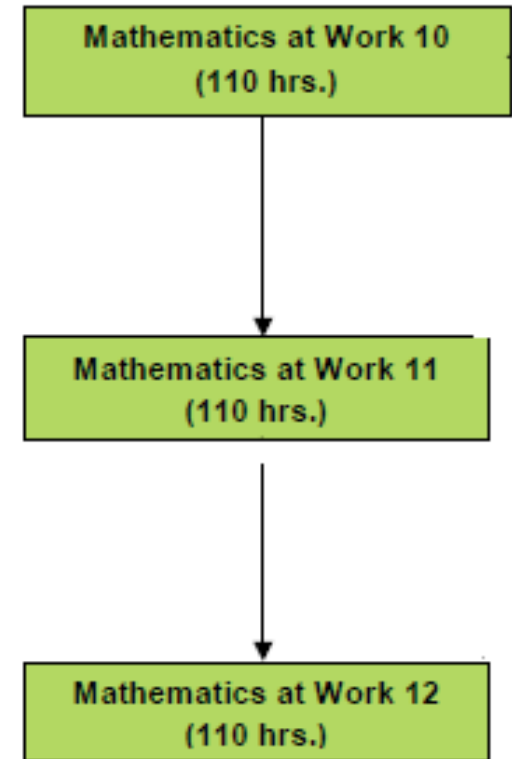
These new courses are designed to provide students with the mathematical understandings and critical-thinking skills identified for direct entry into the work force or for entry into programs of study that do not require *academic* mathematics (such as Bachelor of Arts – English, History, Psychology, Sociology, etc).



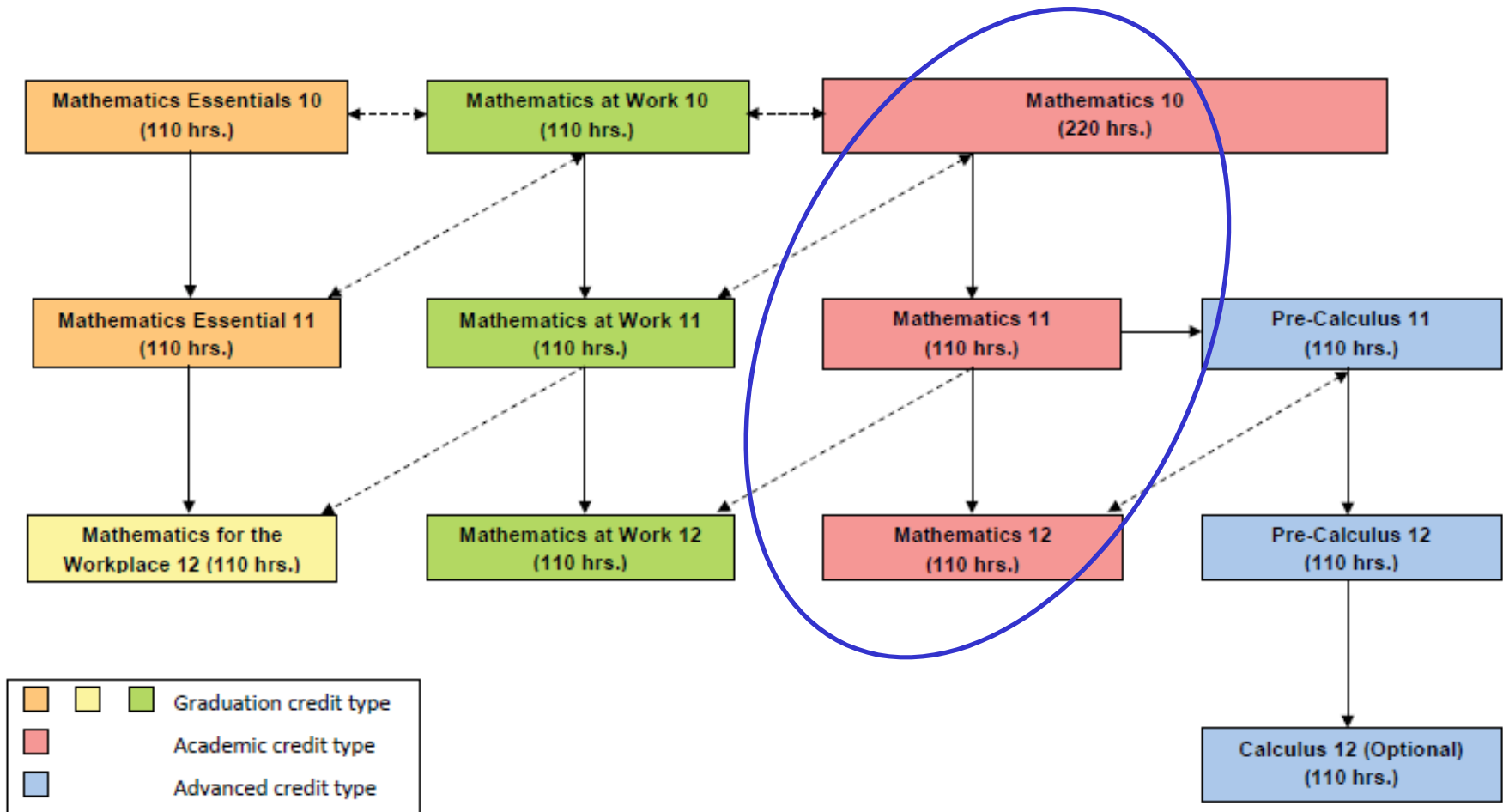


# Mathematics at Work Pathway

The typical pathway for students who successfully complete Mathematics at Work 10 is Mathematics at Work 11 followed by Mathematics at Work 12.



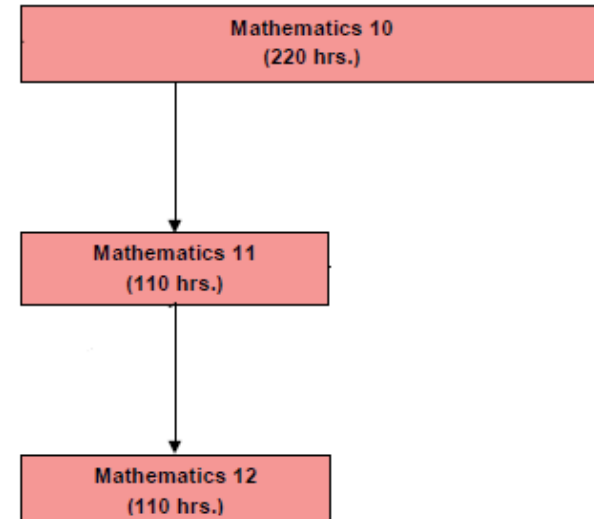
# Senior High Mathematics: Common Pathways





# Mathematics Pathway

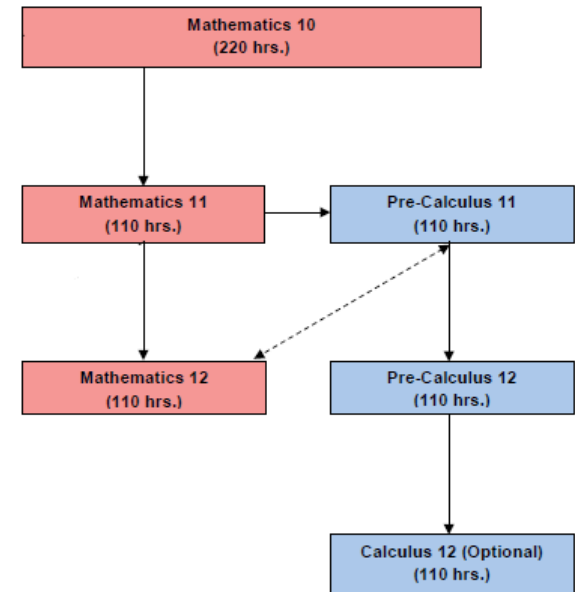
Courses in this pathway are designed to provide students with the mathematical understandings and critical-thinking skills identified for post-secondary studies in programs that require an academic mathematics credit but do not require the study of theoretical calculus.



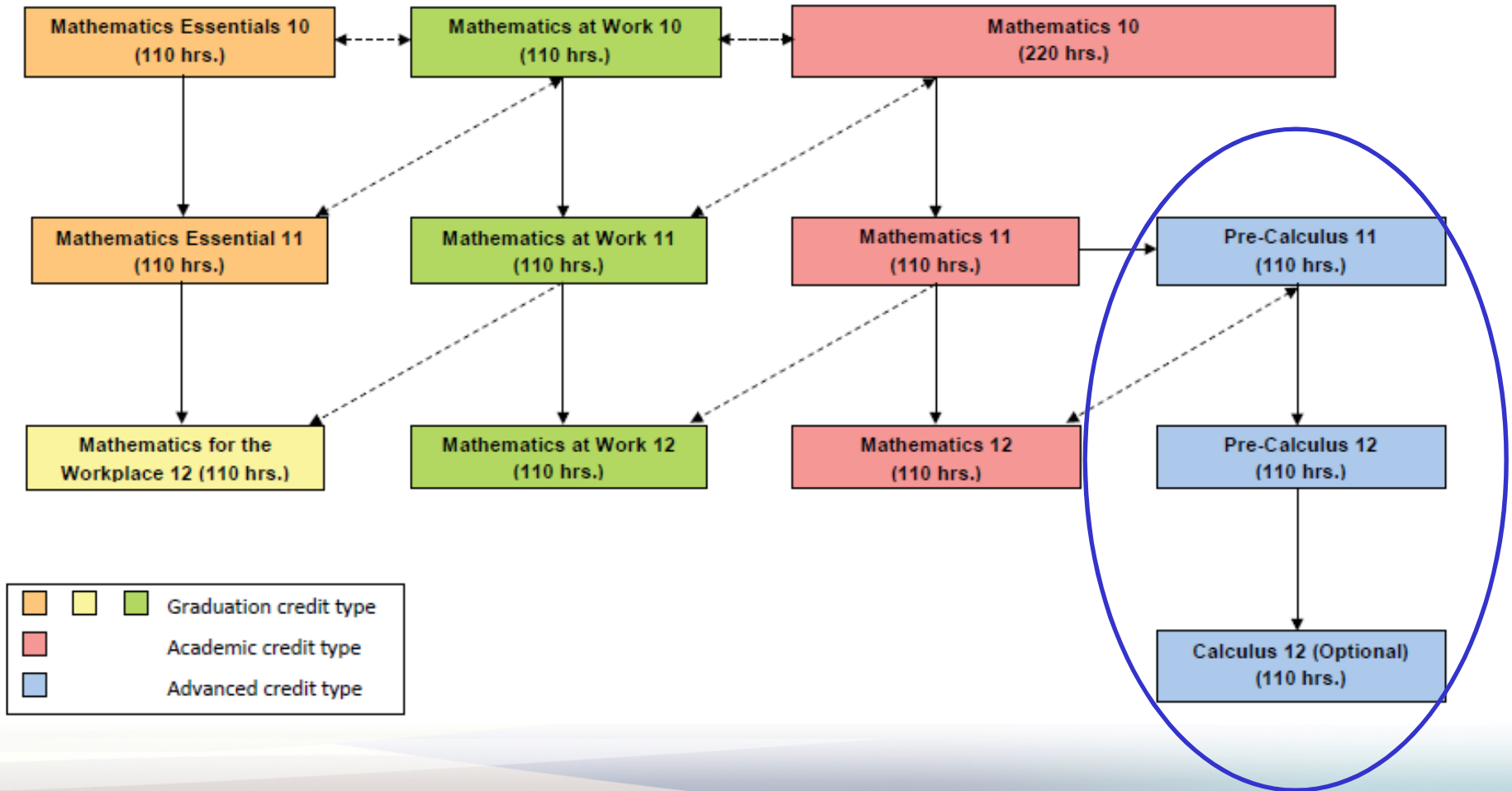
# Mathematics Pathway

Students who complete Mathematics 10 typically may

- complete Mathematics 11 followed by Mathematics 12, if they intend to follow the academic pathway. It will no longer be possible to take these courses out of sequence or concurrently.
- complete Mathematics 11, followed by Pre-Calculus 11, followed by Pre-Calculus 12, if they intend to follow the advanced pathway. It will no longer be possible to take these courses out of sequence or concurrently.



# Senior High Mathematics: Common Pathways





# Pre-Calculus Pathway

Courses in this pathway are designed to provide students with the mathematical understandings and critical-thinking skills identified for post-secondary studies in programs that require the study of theoretical calculus.

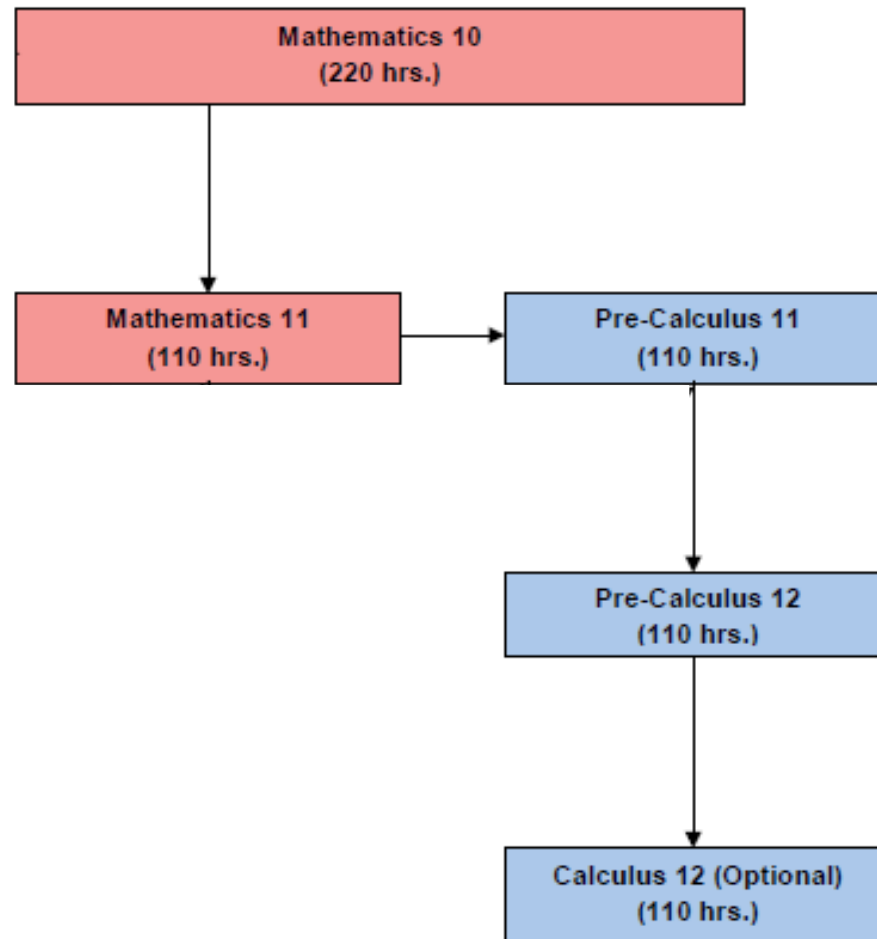
Students who follow this advanced mathematics pathway will be required to complete the 220-hour Mathematics 10 course in their grade 10 year and both Mathematics 11 and Pre-Calculus 11 in their grade 11 year.

Students will explore the following topics:

algebra and number, measurement, relations and functions, combinatorics, and introductory calculus.



# Pre-Calculus Pathway





# Mathematics Course Options Grade 10

- Mathematics Essentials 10
- Mathematics at Work 10
- Mathematics 10



# Financial Mathematics for all Grade 10 Students

Starting in September 2013, all students entering Grade 10 will study areas of Financial Mathematics such as

- working hours and wages
- personal budget
- deductions, expenses
- taxes
- owning and operating a vehicle
- credit card charges

\*\*\*Actual topics depend on course selection



# Mathematics Essentials 10

Mathematics Essentials 10 is

- a 110 hour, graduation, 1 credit course
- designed for students who do not intend to pursue post-secondary study or who plan to enter programs that do not have any mathematics pre-requisites.

There will be no provincial assessment for Mathematics Essentials 10.



# Mathematics Essentials 10

Mathematics Essentials 10 is designed to provide students with the development of the skills and understandings required in the workplace, as well as those required for everyday life at home and in the community.

Students will become better equipped to deal with mathematics in the real world and will become more confident in their mathematical understandings.

Students will explore the following topics:

mental math, working and earning, deductions and expenses, paying taxes, making purchases, buying decisions, probability, measuring and estimating, transformation and design, and buying a car.



# Mathematics at Work 10

Mathematics at Work 10 is

- a 110 hour, graduation, 1 credit course
- a high school mathematics course which demonstrates the application and importance of key math skills.

There will be a provincial assessment for Mathematics at Work 10. It will be written in January and June of each school year.



# Mathematics at Work 10

Mathematics at Work 10 is a new course designed to provide students with the mathematical understandings and critical-thinking skills identified for direct entry into the work force or for entry into programs of study that do not require *academic* mathematics.

Students will explore the following topics:

measurement, area, Pythagorean theorem, right triangle trigonometry, geometry, unit pricing and currency exchange, income, and basic algebra.



# Mathematics 10

Mathematics 10 is

- a 220-hour, academic, 2-credit course. This will mean that students will have mathematics class every day for their grade 10 year.
- two Grade 10 credits awarded
  - 1 academic mathematics credit
  - 1 of the two additional credits in “science, mathematics and/or technology”
- an academic high school mathematics course which is a pre-requisite for all other academic and advanced mathematics courses.

There will be a provincial assessment for Mathematics 10. It will be written in June of each school year by students in Mathematics 10 and Mathematics Pre-IB 10.





# Mathematics 10

Students taking Mathematics 10 will have demonstrated satisfactory achievement of learning outcomes in grade 9 mathematics.

Mathematics 10 is designed to provide students with an initial course in the pathway to develop mathematical understandings and critical-thinking skills identified for post-secondary studies in programs that require an academic or Pre-Calculus mathematics credit.

Students will explore the following topics:

measurement systems, surface area and volume, right triangle trigonometry, exponents and radicals, polynomials, linear relations and functions, linear equations and graphs, solving systems of equations, and financial mathematics.



# Selecting the Best Course

## Considerations

- Mathematical knowledge and background
- Future plans
- Interest
- Learner profile
- Previous mathematics achievement

It is in the students' best interests to select courses in which they are able to be appropriately challenged and are likely to experience success.



# Graduation Requirements

Students entering Grade 10 in September 2013 will need two mathematics credits to graduate, only one of which may be a grade 10 credit.