

“What happens if we change our mind about the pathway decision that we made before the start of this year?”

Because the three pathways were designed to give students different skills, attitudes and knowledge for different career and post secondary paths, they were not designed specifically to allow for lateral movement between pathways.

As a result, schools will not be suggesting students move from one pathway to another once a choice has been made and a student is working in one pathway's courses. The pathway courses contain different content and



were designed in such a way that students could take courses in more than one pathway if desired. Taking more than one math course is not unusual in other parts of Canada. It is a newer idea in British Columbia but this would give a student the

most available opportunities at post secondary institutions.

There are other options as well. If, after high school, your son or daughter changes career paths and realizes that he/she needs Pre -Calc 11 or 12 instead of the Foundations courses taken, colleges and universities will offer these or equivalent courses for upgrading.

Your son/daughter should choose the courses that best fit his/her current math interest and best fit his/her current post secondary direction!

The majority of students will chose the Foundations pathway for their high school studies as it prepares students for a wide range of careers. Some students will chose the more highly theoretical Pre-Calculus 11 and 12 pathway in preparation for university programs requiring Calculus.

“What are the Goals of the New Pathways?”

The goals of all three pathways are to provide prerequisite attitudes, knowledge, skills and math concept understandings for specific post-secondary programs or direct entry into the work force.

All three pathways provide students with mathematical understandings and critical-thinking skills. It is the choice of topics through which those understandings and skills are developed that varies among pathways. When choosing a pathway, students should consider their interests, both current and future and their plans after high school.

Students will be exposed to more problem solving as a way of learning and practicing math concepts. The pathways and courses were designed to prepare students to solve problems in real life more confidently.

All three pathways were designed to clearly communicate high expectations for students' mathematical learning in grades 10, 11 and 12 to all education partners across the jurisdictions.

“Was Apprenticeship and Workplace really designed for students thinking of entering the trades at post secondary?”

YES! There were a number of discussions between various stakeholder groups in the development of the curriculum. It was clear from post secondary stakeholders that one of the pathways needed to focus more on trades and technical math.

This led to reduced overlap between pathways where, “each pathway designed to provide students with the math understandings, rigour and critical-thinking skills that have been identified for specific post-secondary programs of study like the trades”.

The courses in Apprenticeship and Workplace 10 to 12 contain topics like Measurement, Geometry, Pythagoras and Trigonometry that are directly relevant to studies in trades programs post secondary. *It was designed that way!*



“New” Math 10-12 Courses Starting September 2011

Important Questions and Answers for Parents and Students about new Math Pathways and new Math Courses.

“What are the new pathway names and what is in them?”

Each pathway is designed to provide students with the mathematical understandings, rigour and critical-thinking skills that have been identified for specific post-secondary programs of study and for direct entry into the work force by the WNCB. There are three pathways of courses to consider:

Apprenticeship and Workplace Mathematics*

This pathway is specifically designed to provide students with the mathematical understandings and critical-thinking skills identified for entry into the majority of trades at post secondary and for direct entry into the work force. Topics include algebra, geometry, measurement, number, statistics and probability.

Foundations of Mathematics*

This pathway is designed to provide students with the mathematical understandings and critical-thinking skills identified for post-secondary studies in programs such as Economics, Geography, Arts or Humanities that do not require the study of theoretical calculus. Topics include financial mathematics, geometry, measurement, number, logical reasoning, relations and functions, and statistics and probability.

Pre-Calculus*

This pathway is designed to provide students with the mathematical understandings and critical-thinking skills identified for entry into post-secondary programs that require the study of theoretical calculus like Sciences, Business, or Engineering. Topics include algebra and number, measurement, relations and functions, trigonometry, permutations, combinations and binomial theorem.

***CHECK POST-SECONDARY REQUIREMENTS FOR ENTRY TO SPECIFIC PROGRAMS**

Look inside this brochure to see an illustrated pathway diagram and to find out more detailed

“Which pathway is best suited to my child?”

While there is no “rule” about which Math course is right for each student, the decision can be made easier by thinking about your child’s ability in Math, his/her interest in Math, and his/her future education and career plans. The new courses have been designed to facilitate student success after high school. For example:

If your child intends to pursue a trade or join the workplace after high school, then consider the **Apprenticeship and Workplace pathway**.

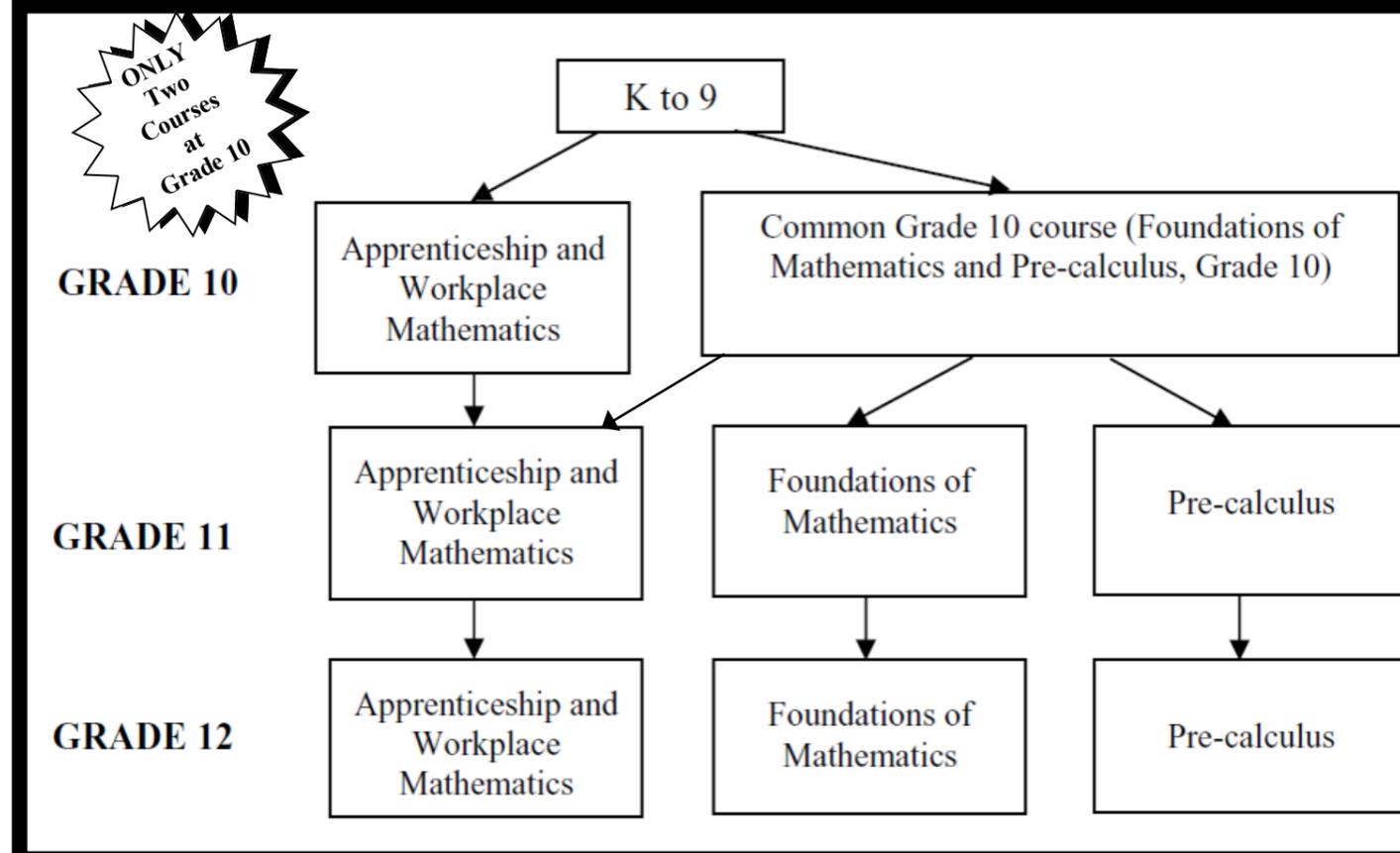
If your child is planning further study in the Social Sciences like Economics, Geography, Psychology, Arts or Humanities at post secondary, then the **Foundations pathway** may be the best choice.

If your child is thinking about future education or a career that involves Sciences or Engineering at a university, then starting the **Pre-Calculus pathway** will be the best choice.

Your child’s education choices after high school depend, in part, on the courses he/she takes in high school. To find out more information about each pathway option, please talk to your child’s teacher, counselor, or principal as well as visit the Ministry of Education website for more curriculum information. **Parents need to remember that grade 10 has ONLY two courses but there are three pathways in grade 11 to 12. Please review the diagram at the right hand side. Students who choose grade 10 Apprenticeship and Workplace cannot move to the Foundations stream easily.**

**Start your post secondary career exploration in BC at <http://educationplanner.bc.ca>
Start your career planning at <http://www.bced.gov.bc.ca/careers/>**

New Math Pathways and Courses showing Transition from Grade 9 to 12



“Is there still going to be a Provincial Exam in the new Grade 10 courses?”

Yes! The new grade 10 pathway courses starting in Sept. 2010 will have a Provincial exam that counts for 20% of the student’s overall course mark. This is the same breakdown for exam and school mark as the current math 10 courses.

The exams will include a computation section without the use of a calculator as well as a calculator-allowed section. The exams will still include multiple choice questions but will now also include problem solving questions that are required to be assessed from the new curriculum. Students will be able to access sample exams for these new courses from: <http://www.bced.gov.bc.ca/>

“Which Mathematics courses can be used to meet graduation requirements?”

To meet the graduation requirements, students are required to take a Mathematics course at the Grade 10 level. Either Apprenticeship and Workplace Mathematics 10 or Foundations of Mathematics and Pre-Calculus 10 will satisfy this requirement. In addition, students must also take a Mathematics course at the Grade 11 level. Any of the new Grade 11 courses (Apprenticeship and Workplace Mathematics 11, Foundations of Mathematics 11, or Pre-Calculus 11) will satisfy this requirement.

“My child wants to go to University. Which pathway should be followed?”

Both Foundations and Pre-Calculus courses will allow your child entrance to University; however, students **MUST** check requirements for entry to specific programs.

There are many different combinations of courses and programs that will allow a student to go to college or university. The specific Math courses that are required by colleges and universities depend entirely on the program a student wants to enter.

Some entrance requirements include calculus math courses (courses from the Pre-calculus pathway that are theory-based) and others do not require calculus courses (courses from the Foundations pathway that are less theory-based).

It is crucial that university or college websites are checked to find out which specific courses are needed for entry and what marks are needed in those courses.

