| Still have questions?  If you are still unsure about what course(s) to select, see one of the science teachers in the building. They are always happy to answer questions.  Mr. Renaud - Room 301  Mrs. O’Brien - Room 303  Mrs. Stead - Room 305  Mr. Roy – Room 307  Mr. Morin – Room 302  Mr. McGillivary – Room 308 | **Anatomy of a Course Number**  112  Grade level for the course:  11 – grade 11 course  12 – grade 12 course  The level of the course:  0 – open to all students  1 – intensive level (strongest students in the subject area, more independence)  2 – comprehensive level (accepted level for all post-secondary course requirements)  Students can be in grade 11 or 12 when they take any of the science courses listed as long as they meet the pre- and co-requisites. | HTHS   * Options for students entering grades 11 and 12 |
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| **What science courses are there?**  Students are required to take one (1) science course at the grade 11 or 12 level to graduate. Many post-secondary science programs require two (2) sciences at the grade 12 level.  **Biology 112**  Description: Students will study: The Scientific Method, Cell Theory, Cell Biology, Photosynthesis and Respiration, Homeostasis, Human Systems, Biodiversity in Six Kingdoms and Interactions among Living Things.  Prerequisites: Science 10, GMF 10 (math)  ***FI option is available.***  **Biology 122**  Description: Major topics are systems regulating change, reproduction and development, chromosomes, genes, DNA, and evolutionary biology.  Prerequisites: Science 10, Foundations Math 110 (pre or co-requisite)  Possible Careers: Health sciences, lab technologies, animal sciences, nursing, LPN.  Other Recommendations: Human Physiology 110 or Biology 11 should be taken before Biology 122  **Lab Techniques 120**  Description: For the true science minion! Major topics are histology, pathology, human kinetics, cytotoxicity, forensics, and advanced laboratory skills.  Prerequisites: Science 10, Foundations Math 110 (pre or co-requisite)  Possible Careers: All sciences, lab technologies, animal sciences, nursing, forensics. | **Chemistry 111\*/112**  Description: Students will be learning about the structure of matter and how that structure influenced the properties of matter. The second half of the course focuses on the relationships that exist within a chemical reaction. Chemistry-based problem solving skills are developed throughout the course.  Prerequisites: Science 10, Foundations Math 110 (pre or co-requisite)  **Chemistry 121\*/122**  Description: Students explore four specific areas of chemistry: thermochemistry, equilibrium, acids and bases and organic chemistry. This course is heavily focused on problem solving and application of chemical concepts.  Prerequisites: Chemistry 11, Foundations Math 110  Possible Careers: Engineering, computer science, health sciences, nursing  Other Recommendations: Take both chemistry 11 and chemistry 12 in the same year. \*Students choosing 111 should also choose 121.  **Environmental Science 120**  Description: This course introduces the scientific concepts needed to understand the natural world and current environmental issues. Topics include terrestrial and aquatic ecosystems, biodiversity, biochemical cycles, land & water resources, population dynamics, energy resources & consumption, pollution and climate change.  Prerequisites: Science 10  Possible Careers: Geologist, waste management, environmental scientist, forestry management |
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**Human Physiology 110**

Description: The course focuses on the biology and healthy functions of all of the major human body systems and how wellness can be compromised by struggle with mental and social health, lifestyle choices and disorders. As a wellness-directed study, this course is relevant to every student-providing them with the tools they will need to make informed choices about their own health and that of others.

Prerequisites: Science 10, GMF 10 (math)

Possible Careers: Health care, social work, counseling, and kinesiology

**Physics 112**

Description: This course is a continuation of some topics from science 10. Students will build an understanding of relationships between force and motion through a variety of problem-solving scenarios.

Prerequisites: Science 10, Foundations Math 110 (pre or co-requisite)

**Physics 122**

Description: Students will continue to develop their problem solving skills. Discussions around force and motion will be expanded to include two-dimensional problems.

Prerequisites: Physics 11, Foundations Math 110

Possible Careers: Engineering, computer science

Other Recommendations: Students are strongly encouraged to take physics 11 and 12 in their grade 12 year.