**Grade 11 – Science – Course Planning Recommendations**

**Goal**: Provide you with the necessary information to allow you to make an educated decision on which of the sciences to take next year.

**Analytical Based Sciences** *(Physics, Chemistry and Honours Chemistry)*

1. **Why study the Analytical Based Sciences?**
   1. Are you interested in the natural laws and processes that affect and shape manufacturing, medicine, energy and so much more?
   2. Do you like to analyze problems and synthesize solutions?
   3. Do you like being challenged?
2. **Skills and Attributes required for success?**
   1. A willingness to persevere through complex problems that often involve mathematical principles.
   2. A strong interest in problem solving
   3. A good working memory.
   4. An interest in laboratory investigations and experimentation.
3. **Suggested Pre-Requisite Courses and Achievement?**
   1. Science 10 – 67% (min)
   2. Foundations/Pre-Calculus Math 10 – 67% (min)
4. **Suggested Co-Requisite Courses (it is suggested that students enrol in a minimum of 2 of the following courses in their grade 11 year)**
   1. Pre-Calculus 11 (preferred)
   2. Foundations Math 11
5. **Potential Career Paths** 
   1. *Chemistry*

* Computers and telecommunications
* Pharmaceutical companies
* Hospitals & other medical organizations
* Aerospace industry
* Mining and metallurgy companies
* Oil and gas companies
* Environment Sustainability sector
  1. *Physics*
* Aerospace industry, Airports
* Communications technology industry
* Energy Development companies
* Environmental and Pollution control
* Information Technology industry
* Manufacturing companies
* Military
* Aerospace industry

1. **Have questions…reach out in person or through MS Teams:**
   1. Mr. Dennis/Mr. Krahn/Ms. Shambrook *(Physics 11)*
   2. Mrs. Dennis/Mr. Jennens *(Chemistry 11 and Honours)*

**Knowledge and Understanding Based Sciences** *(Life Science and Environmental Science)*

1. **Why study the Knowledge Based Sciences?**
   1. Do you like to understand how animals and organisms work?
   2. Are you interested in how life evolves and how our body works?
   3. Are you interested in achieving a deeper understanding of the materials and processes that shape our environment?
2. **Skills and Attributes required for success?**
   1. A good working memory.
   2. Interest in scientific vocabulary and terminology.
   3. An appreciation of how processes are interconnected, (living and non-living systems).
3. **Suggested Pre-Requisite Courses and Achievement?**

a. Science 10 –60% (min)

1. **Potential Career Paths**

* Health sciences
* Geology
* Oceanography
* Resource and financial companies
* Mineral and hydrocarbon companies
* Environmental sector
* Government agencies
* Agricultural sciences
* Horticulture
* Genetic engineering
* Food sciences

1. **Students wishing to go from Science 10 to Anatomy and Physiology 12 directly should;**

* be mentally mature and ready for the huge jump in difficulty in terms of content and volume,
* be achieving 90% in all core academic courses during their grade 10 year,
  + possibly slightly lower academic % restriction if concurrently taking another senior science course.
* must meet with Anatomy and Physiology 12 teacher (Mrs. Noakes) to discuss (i.e. recommendation is needed before acceptance is granted).

\*\*\* **bypassing Life Science 11 has often resulted in underachievement in Anatomy and Physiology 12.** Without the overlapping competencies associated with Life Science 11, students are at a disadvantage during the 1st half of semester.

1. **Have questions…reach out in person or through MS Teams:**
   1. Mrs. Noakes/Mrs. Small *(Anatomy | Physiology 12)*
   2. Mr. Dennis/Mr. Ocampo *(Life Sciences 11)*
   3. Mrs. Wergeland *(Environmental Sciences 11)*

**Applied Sciences** *(Astronomy and Science for Citizens)*

1. **Why study the Applied Sciences?**
   1. Are you interested in the sustainability of our planet?
   2. Does understanding the vastness of space capture your interest?
   3. Are you interested in exploring the origins of the universe and interactions of celestial bodies?
2. **Skills and Attributes required for success?**
   1. Willingness to participate in project-based work.
   2. Willingness to work outdoors in various climates, (rain or shine).
   3. Willingness to work with a diverse group of individuals.
3. **Suggested Pre-Requisite Courses and Achievement?**
   1. Science 10 – Pass
   2. Foundations | Pre-Calc 10 – 60% (min) **(Astronomy)**
4. **Potential Career Paths**
   1. ***Science for Citizens***

* **Construction Project Manager**
* **Sustainable Design Professional**
* **Energy Efficiency Analyst**
* Horticulture
* Greenhouse Management
* City Land Maintenance

1. ***Astronomy***

* **Science Communicator or Writer**
* **Planetarium Worker**
* **Aerospace Industry**
* Observatory Scientist

1. **Have questions…reach out in person or through MS Teams:**
   1. Mr. Allingham (Science for Citizens 11)
   2. Mr. Ocampo (Astronomy 11/12)