



Archbishop MacDonald Catholic High School

Course Physics 30

Year 2026-2027

Term Semester 1

Teacher(s) Christopher Ferguson, James Kriese

Resources *Physics, Sander et-al, Pearson Education Canada, 2007*

Program of Studies [Physics Program of Studies](#)

Overview

A. Momentum and Impulse (15%)

Students will explain how momentum is conserved when objects interact in an isolated system.

B. Forces and Fields (30%)

Students will explain the behaviour of electric charges using the laws that govern electrical interactions. They will describe electrical phenomena using the electric field theory. They will explain how the properties of electric and magnetic fields are applied in numerous devices.

C. Electromagnetic Radiation (30%)

Students will explain the nature and behaviour of electromagnetic radiation using the wave model. They will explain the photoelectric effect using the quantum model.



D. Atomic Physics (25%)

Students will describe the electrical nature of the atom. They will describe the quantization of energy in atoms and nuclei. They will describe nuclear fission and fusion as powerful energy sources in nature. They will describe the ongoing development of models of the structure of matter.

IB Philosophy

MAC's courses use the IB philosophy to encourage the holistic development of all students. The Learner Profile and Approaches to Teaching and Learning are used at all levels so that students develop a better understanding of curriculum objectives. This course will focus on the Learner Profile for THINKERS because we use critical and creative thinking skills to act on complex problems. Our Approaches to Learning skill will be THINKING because we emphasize skills such as reflection and critical thinking.

Assessment

Unit A – Momentum & Impulse	15%
Unit B – Forces & Fields	30%
Unit C – EMR	30%
Unit D – Atomic Physics	25%

The school awarded mark is based on 100% of the listed categories. Alberta Education will arrive at a blended mark which weighs the diploma exam at 30% and the school awarded mark at 70%.

The code NHI may be used to represent coursework that has not been handed in. It is representative of a zero. In addition, the following may appear for a student in PowerSchool instead of, or in addition to, a numeric grade:



Disclaimer

A wide range of assessment information is used in the development of a student's final grade. At Archbishop Macdonald Catholic High School, individualized assessments provide specific information regarding student progress and overall performance in class. Student assessment may vary from student to student to adapt for differences in student needs, learning styles, preferences, and paces. It should also be noted that not all assignments are used to determine the final grade, and that scale factors may have been used to determine the weight of individual assignments.

Personal Mobile Device Standards

Mobile Devices and Social Media Use:

- Personal mobile devices are to be silenced or turned off and stored in the student's assigned locker during the day, which must be locked.
- No personal mobile devices are to be used during the day except for at lunch.
- No social media is to be accessed during the school day.

- Tablets/laptops are used for educational purposes only.
- The standard for Personal Mobile Devices includes cell phones, SMART watches, earbuds, and headphones.
- Non-compliance with the standards will result in consequences of a suspension or loss of privileges such as participation in school trips, or activities, sports teams, and extracurricular activities.

Laboratory Safety Standard

Science at Archbishop MacDonald is a hands-on, skill-based discipline involving activities that may entail risk. Safety in the laboratory takes precedence over all instructional concerns. To ensure your safety and the safety of others, the following laboratory safety standard is always in effect:

1. Conduct must be professional. Counter-sitting, throwing, playing, pranking, and unsanctioned experiments are prohibited.
2. Footwear must completely cover the foot. Sandals, slides, and/or clogs are prohibited.
3. Food and/or drink are prohibited.

There is a **zero-tolerance policy** for violations of the safety standards; failure to comply with these standards will result in immediate exclusion from the lab activity. Additional safety measures that are activity-dependent may also be required.

Expectations

Unexcused absences and/or lates are unacceptable and may have a negative effect on the grade. Missed coursework may be expected to be completed and may be scored as zero or NHI until submitted (see disclaimer).

Student Handbook [LINK](#)

Academic Integrity [LINK](#)