

School of Liberal Arts



PHYS 060
Introductory Physics
Winter 2022

3 Credits

Course Outline

INSTRUCTOR	Geneviève Favreau	OFFICE HOURS	TBD
OFFICE	A 2312	CLASSROOM	Lab A2801 Lecture A2101
E-MAIL	gfavreau@yukonu.ca	CLASS TIME	Labs: Thur 2:30 – 5:25 p.m. Lectures: T/F 2:30 – 3:50 p.m. Thu 2:30 -5:30 p.m.
TELEPHONE	867-456-6996 ext. 1320	CRN	20038 & 20039
Liberal Arts office: Ayamdigut Campus A2501, liberalarts@yukonu.ca, 867-668-8770			

COURSE DESCRIPTION

College Preparation Physics 060 will allow students to take Physics 101 at Yukon University, or a university level, calculus based (with calculus) Physics course offered at college and universities. The content of the course includes kinematics and dynamics, including force, energy, momentum, and circular motion as well as electrostatics and electromagnetism.

COURSE REQUIREMENTS

High school Physics 11 with a minimum grade of 65% or Yukon University Physics 050 with a minimum grade of 65%. High school Mathematics 11 (Pre-Calculus from BC/Yukon or with Algebra elsewhere) with a minimum of 65% or Yukon University Math 050 with a minimum of 65%. As there are many formal laboratory reports to write a demonstrated writing ability is also required. Successful completion of Yukon University English 030 (English 040 prior to 2016) would be considered the minimum.

RELATED COURSE REQUIREMENTS

It is required that all students have access to a computer or other device and Internet to do their studies. The minimum specifications for a student device are as follows:

Requirement	Windows-based PC	Apple PC	Mac/macOS-based
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Operating System	Windows 10	macOS X
Web Browser	Firefox, Edge or Google Chrome	Firefox, Edge or Google Chrome
RAM/Memory	4 GB	4 GB
Storage	5 GB of available space	5 GB of available space

Safety glasses are always required to be worn during the laboratories. Safety glasses are provided, however, in the interest of comfort, students may wish to purchase their own. Students may also wish to purchase their own lab coat.

EQUIVALENCY OR TRANSFERABILITY

Yukon University Physics 060 is articulated as Provincial Physics in the Adult Basic Education system (ABE) in British Columbia and Yukon.

Yukon University Physics 060 is considered as an External Physics 12 credit by the British Columbia Ministry of Education. These courses are of equivalent or higher standard to other MEd-authorized senior secondary courses, but the learning outcomes differ.

Please refer to the BC Adult Basic Education Articulation Handbook.

Students are reminded that it is always the receiving institution that determines whether a course is acceptable as an applicable, equivalent course or if it may be transferred to their program for credit. Find further information at: <https://www.yukonu.ca/admissions/transfer-credit>

LEARNING OUTCOMES

Upon successful completion of this course, students will be able to meet the learning outcomes for ABE Advanced level Physics located in the 2018-2019 BC Adult Basic Education Articulation Handbook which may be found at <http://www.bctransferguide.ca/search/abe>

- Obtain the prerequisite body of knowledge and skills that will provide a basis for further academic and career/vocational training
- Appreciate and apply the physics of everyday life
- Appreciate and apply the scientific method to investigations of all phenomena
- Communicate effectively, particularly to the scientific community using the language of physics and mathematics.
- Carry out all duties in an ethical, professional manner, including the collection of data.
- Work effectively as a member of a team.
- Handle equipment in a safe and effective manner with regard to their own safety and the safety of others.

YUKON FIRST NATIONS CORE COMPETENCY

Required only for courses that meet the Yukon First Nations Core Competency (see the list at www.yukonu.ca/yfnccr); delete if not applicable]

Students who successfully complete this course will have achieved core competency in knowledge of Yukon First Nations. By the end of this course, students will have greater understanding and awareness of Yukon First Nations history, culture, and journey towards self-determination. For details, please see www.yukonu.ca/yfnccr

COURSE FORMAT

This class is offered by lecture format at Ayamdigut Campus. Approximately half the Thursday classes will be laboratories from 2:30pm until completion at or before 5:30pm; the remaining Thursdays will be regular classes from 2:30-5:30pm with breaks allocated to break up the 3hour lecture. A schedule with lab times will be made available on Moodle.

ASSESSMENTS:

Attendance & Participation

The collection of data for most laboratories must be done in a laboratory, therefore students must attend or conduct a laboratory session in order to submit a report. Students arriving late to a laboratory session may be refused entry.

It is the student's responsibility to attend classes. Students who miss classes are responsible for any work missed except for laboratories as detailed in "ASSESSMENTS".

Homework

Homework accounts for 8% of the course mark

Assignments

Assignments account for 17% of the course mark.

Tests

There is a midterm which accounts for 20% of the course mark and a cumulative final examination which accounts for 30% of the course mark.

Laboratories

There are seven labs in the course, one from each topic. Each of the seven labs requires a detailed lab report due one week after the lab session. The collection of data must be done in the laboratory or classroom; the calculations and write-up can be done at home, therefore students must attend the lab session in order to submit a report. For this reason, consult the schedule and make any necessary arrangements. There will be 10% deducted for late reports unless prior permission has been received from the instructor. It is the students' responsibility to attend class. Late reports will receive deductions www.yukonu.ca

regardless of absences. Reports will usually be returned the class after the due date. Once reports have been returned they will no longer be accepted. ***Students must achieve a minimum of 50% on the laboratory component to pass the course.**

Electronic Devices

In order to be successful in classes and minimize distractions for others, cell phones, iPods and other electronic devices must be in "do not disturb" mode while students are in class.

Appropriate Language

In all areas of the university environment, students are responsible to show respect for others, swearing, or language that is discriminatory or derogatory in relation to race, sex, ethnic background, religious beliefs, age and physical condition is not appropriate.

EVALUATION

Homework	8%	
Assignments	17 %	
Laboratory Mark *	25 %	*See above Chap 1-9
Midterm Exam	20%	All content
Exam	30 %	
Total	100%	

Rewrites

A rewrite for a failing grade on an examination (less than 50%) may be permitted at the instructor's discretion. These examinations will be written no earlier than two weeks after the date of the original examination. The mark will be recorded whether it is higher or lower than the original. However, a maximum mark of 65% will be awarded.

"No Shows"

A student who misses an examination will receive a mark of zero for that examination but may be permitted a rewrite. Exceptions may be made if a student receives prior permission from the instructor or faces an emergency. Some form of documentation of the emergency may be required.

TEXTBOOKS & LEARNING MATERIALS

Cutnell, John, Johnson, Kenneth, Physics, 5th ed. 2001 (provided).
 Yukon University, Physics 060 Laboratory Manual, 2020. (provided)
 Scientific non-programmable calculator.

COURSE WITHDRAWAL INFORMATION

Students may officially withdraw from a course or program without academic penalty up until two-thirds of the course contact hours have been completed. Specific withdrawal dates vary, and students should

become familiar with the withdrawal dates of their program. See withdrawal information at www.yukonu.ca/admissions/money-matters

Refer to the YukonU website for important dates: www.yukonu.ca/admissions/important-dates

Refunds may be available. See the Refund policy and procedures at www.yukonu.ca/admissions/money-matters

ACADEMIC INTEGRITY

Students are expected to contribute toward a positive and supportive environment and are required to conduct themselves in a responsible manner. Academic misconduct includes all forms of academic dishonesty such as cheating, plagiarism, fabrication, fraud, deceit, using the work of others without their permission, aiding other students in committing academic offences, misrepresenting academic assignments prepared by others as one's own, or any other forms of academic dishonesty including falsification of any information on any Yukon University document.

Please refer to Academic Regulations & Procedures (updated bi-annually) for further details about academic standing, and student rights and responsibilities: www.yukonu.ca/policies/academic-regulations

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon University Academic Regulations (available on the Yukon University website at www.yukonu.ca/policies/academic-regulations)

It is the student's responsibility to seek these accommodations by contacting the Learning Assistance Centre (LAC): LearningAssistanceCentre@yukonu.ca.

TOPIC OUTLINE

Physics 060 covers the Core Topics as stated for ABE Advanced Level Physics located in the 2018-2019 BC Adult Basic Education Articulation Handbook which may be found at

<http://www.bctransferguide.ca/search/abe>

Date/Week	Topic	Preparation/Readings
1 – Jan 6th	Introduction and Mathematical Concepts, Vectors Kinematics in One Dimension	Chapter 1 & 2
2 – Jan 10	Kinematics in two dimensions	Chapter 3

3 – Jan 17	Mechanics: Forces and Newton's Laws of Motion; Equilibrium and Non-equilibrium Applications	Chapter 4
4 – Jan 24	Mechanics: Forces and Newton's Laws of Motion; Equilibrium and Non-equilibrium Applications	Chapter 4
5 – Jan 31	Uniform Circular Motion; Gravity	Chapter 5
6 – Feb 7	Work and Energy Impulse and Momentum, Collisions (two dimensions)	Chapter 6 & 7
7 – Feb 14	Impulse and Momentum, Collisions (two dimensions)	Chapter 7
8 – Feb 21	Reading Week	
9 – Feb 28	Review and Midterm	Chapter 1-7
10 – Mar 7	Rotational Kinematics; Torque, Equilibrium Applications (statics)	Chapter 9
11 – Mar 14	Rotational Kinematics; Torque, Equilibrium Applications (statics) Electric Forces and Electric Fields	Chapter 9 & 18
12 – Mar 21	Electric Forces and Electric Fields Electric Potential Energy and the Electric Potential	Chapter 18 & 19
13 – Mar 28	Electric Potential Energy and The Electric Potential Magnetic Forces and Magnetism Fields	Chapter 19 & 21
14 – Apr 4	Magnetic Forces and Magnetism Fields Electromagnetic Induction	Chapter 21 & 22
15 – Apr 11	Electromagnetic Induction	Chapter 22