

PHYSICS Science Mechanics

203-NYA-05 (all sections)
Fall 2019

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Pre-requisites	Sec. V Physics 504, Mathematics 506 (or equivalent)									
Co-requisites	Calculus I (201-NYA-05)									
Ponderation	3-2-3 (3 hours of lecture, 2 hours of labs, and 3 hours of work outside class for each 5 hours of class time)									
Course objectives	<p>The role of this course in the program is two-fold. First, it presents the basic principles of mechanics { kinematics, dynamics, and the three conservation laws (energy, momentum and angular momentum) { which are essential to the study of all the natural sciences. Second, it provides an opportunity for students to develop problem solving skills.</p> <p>The laws and concepts introduced in this course are the foundation of our scientific view of the world. Ideas about force, motion, energy and momentum arise again and again in all the sciences and in daily life. Understanding them is essential to the education of a scientist or an engineer. In every physics, chemistry, geology and even biology course at college and university, concepts such as energy and momentum, first learned in mechanics, will be generalized, broadened, deepened and applied.</p> <p>Detailed information regarding the objectives and standards for this course and the specific performance criteria is available at https://www.dawsoncollege.qc.ca/physics/program-documents/science/.</p>									
Course competencies	<p>This course will allow the student to fully achieve the competency:</p> <p>OOOR: Analyze various situations and phenomena in physics using the basic principles of classical mechanics.</p> <ol style="list-style-type: none">1. Describe the translational and rotational motion of bodies.2. Apply the concepts and laws of dynamics to the analysis of the motion of bodies.3. Measure the amount of work and energy involved in simple situations.4. Apply the principles of conservation in mechanics.5. Verify experimentally a number of laws and principles in mechanics.									
Evaluation	<p>The Institutional Student Evaluation Policy (ISEP) is designed to promote equitable and effective evaluation of student learning and is therefore a crucial policy to read and understand. The policy describes the rights and obligations of students, faculty, departments, programs, and the College administration with regard to evaluation in all your courses, including grade reviews and resolution of academic grievance. ISEP is available on the Dawson website.</p> <p>There are two grading schemes. Your final grade will be the higher of the two schemes.</p> <table><tr><td>Assignments, quizzes and class tests^y</td><td>40%</td><td>25%</td></tr><tr><td>Laboratory activities</td><td>20%</td><td>20%</td></tr><tr><td>Final examination</td><td>40%</td><td>55%</td></tr></table>	Assignments, quizzes and class tests ^y	40%	25%	Laboratory activities	20%	20%	Final examination	40%	55%
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^y

In order to pass the course, students must show a basic understanding of the course material at the level

**Intensive
course
conflicts**

If a student is attending an intensive course, the student must inform the teacher, within the first two weeks of class, of the specific dates of any anticipated absences.

**Policy on
religious
observance**

Students observing religious holidays must inform their teachers, in writing, as prescribed in the ISEP Policy on Religious Observances, no later than the end of the second week of the impacted semester or