



PHYSICS
Civil Engineering Technology
Civil Engineering Physics I
203-912-DW (all sections)
Winter 2019

Teacher **Andrew Stewart** 7A.24, local 4024, anstewart@dawsoncollege.qc.ca

Pre-requisites None

Co-requisites None

Ponderation 2-2-2 (2 hours of lecture, 2 hours of labs, and 2 hours of work outside class per week)

Course objectives This course teaches the students of Civil Technology the basic principles of statics, forces and structures with an emphasis on applications. This course prepares the students for more advanced courses like structural analysis. Students are required to apply the basic laws of mechanics to a range of phenomena of importance in civil engineering, to model these phenomena and to analyze experimental data.

Detailed information regarding the objectives and standards for the competencies related to this course and the specific performance criteria is available at <https://www.dawsoncollege.qc.ca/oad/>

Attendance & participation

Although class attendance is not compulsory, students should make every effort to attend all classes. In the event that a class is missed, the student is responsible for all material covered or assigned during that class. **Attendance during laboratory experiments and for class tests is however compulsory.**

**Course
content**

The material to be covered is contained in the following chapters and sections of the text.

Weeks	Topics	Chapter & Section
1{2	Units, conversion of units, errors, math review	Ch.1: all
2{3	Resultant of concurrent forces in a plane	Ch.2: all
4{5	Equilibrium of concurrent forces in a plane	Ch.3: all
6{7	Resultant of non-concurrent forces in a plane	Ch.4: all
9{11	Equilibrium of a rigid body	Ch.5: all
12	Friction (dry and rolling)	Ch.8: 1{3 (4{8 optional)
13{14	Centre of gravity, centroids, and moments of inertia of areas	Ch.9: all
15	Internal reactions: Stress for axial loads	(Ch.10: 1{9 optional)

In addition, you will have to complete labs designed to give you a hands-on opportunity to learn about key physical concepts.