

PHYS 1P23

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Course Outline

1. What is this course all about?

What [Brock calendar entry](#) says:

Fluids in equilibrium, surface tension and capillary action; fluids in motion, viscosity and turbulent flow. Heat and temperature, elements of kinetic theory and the laws of thermodynamics. Electromagnetic waves and wave nature of light.

What do I need to bring into the course?

This course is suitable for students with a high school science background. High school calculus or Grade 13/OAC Physics are *not* required, but skills in elementary algebra, geometry, and trigonometry are necessary: the course is *quantitative* in nature. A good scientific calculator is required.

PHYS 1P91 is the prerequisite for PHYS 1P93 (with labs)
PHYS 1P21 is the prerequisite for PHYS 1P23.

Textbook

College Physics, by Young and Geller, 8th Edition, Pearson/Addison Wesley, 2007.

Student Study Guide, *Student Pocket Companion*, and other ancillary materials are available to order from the Bookstore, if desired. See the Preface in the textbook or the companion website, http://www.aw-bc.com/young_geller/.

2. Lectures and tutorials

Lectures: M W F 08:00-08:50 in TH247

Instructor: [E.Sternin](#)

Tutorials are conducted every Tuesday in AS204, 17:00-17:50, by senior TAs. Tutorials consist of two distinct phases:

- **Phase 1: review of the most difficult problems assigned the previous week** (20 mins)

It is expected that the students have worked on the homework, visited the Help Desk to have their questions answered, and are generally ready to write the weekly quiz. There is time for only a few very brief questions and clarifications.

- **Phase 2: in-class test** (30 mins)

Two or three problems similar to (*but not necessarily from!*) this week's homework, typically two qualitative multiple-choice questions, and one quantitative problem.

The tutorial test marks contribute a significant fraction of the [final grade](#) in the course, so their **attendance is mandatory**. There will be **no** alternate test times. As per University regulations, **only** valid medical excuses will be accepted, with the marks scaled accordingly.

3. PHYS 1F93 laboratories

PHYS 1F93 labs are in MC H200, 14:00-17:00, during alternate weeks, starting the week of January 22-26. Frank Benko (B210A, frank.benko@brocku.ca) is the senior lab demonstrator, and should be contacted for all details.

You are required to submit a copy of the Discussion component of your lab reports to [turnitin.com](#) for comparison against the submissions of the other students in your course. To create a student profile for this course, go to <http://www.turnitin.com> and click on the login button. If not already registered, the login will fail and you will be given an opportunity to create a new user profile. Select student user and enter the following:

Class ID = 1753872

Password = integrity

You will also need to enter your **badger** email address. Once your user profile is created, you

can login and submit a copy of your Discussion. Remember that the Discussion submitted in your Lab Report must be typed and identical to the copy submitted to **turnitin.com**.

Computer-based data acquisition is an integral part of the labs; you may want to consult <https://www.physics.brocku.ca/physica/> in advance. Under the "Get data" menu selection, select "demo" and click "go"; the demo mode allows you to try the tools without being in the lab.

4. Other sources of help

Office hours

- **Edward Sternin** (B206, ext.3414, ed.sternin@brocku.ca): MWF 10:00-11:30, or by appointment
- **Frank Benko** (B210A, ext.3417, frank.benko@brocku.ca): by appointment
- **Phil Boseglav** (B211, ext.4109, fbosegla@brocku.ca): by appointment

Physics Club

Senior students have been known to run informal problem-solving tutorials for the members of BURPS, usually in MC B203 during lunch hours.

On-line electronic documentation

This course description, overheads of summaries presented in class, weekly tutorial problem assignments (*i.e.*, homework), and some selected supplementary materials will be made available on-line via the Web server of the Physics Department, <https://www.physics.brocku.ca/> (follow the links to Courses -> 1P23/1P93).

5. Topics to be covered

As time permits, some topics not listed below may be added, while some other topics may not be covered during lectures and tutorial sessions. The outline below is only an approximation.

- **Solids and Fluids**
- **Heat and Thermodynamics**
- **Electrostatics**
- **Electrical Circuits**
- **Magnetism**
- **Light and Optics**
- **Elements of Modern Physics**

6. Tests and the marking scheme

Component	PHYS 1P23	PHYS 1P93	Comments
tutorial tests	50%	40%	Conducted during the regular tutorial time slot, on February 27, 2007
midterm exam	20%	15%	
final exam	30%	25%	You must pass the final exam (50% or more) in order to pass the course.
laboratories	-	20%	<i>Both</i> attending the lab <i>and</i> submitting a 200-word written report is required to complete a lab. All labs must be completed to obtain a final mark <i>in the course</i> .