

Summer Physics Institute
May 29– July 20, 2018
Macalester College

Physics 221: Introductory Physics I

Kinematics, Newton's laws of motion, Newton's law of gravitation, conservation laws of energy, momentum, and angular momentum, rotational motion, fluid motion (pressure, Pascal's principle, Archimedes' principle, and Bernoulli's equation), and mechanical waves.

Lab work is an integral part of Physics 221 & 222. Experiments are designed either to reinforce the concepts discussed in lectures, or to introduce additional topics.

Prerequisites: Algebra and trigonometry; however, since most students have had a semester or more of calculus, occasional use of calculus will expedite derivations of formulas.

Academic credit: **Four semester hours**

Date: May 29 (T) – June 22 (F), 2018

Lecture: 10:10 - 11:10 a.m., MTWThF

Laboratory: Section I, 8:10 - 10:00 a.m., TWTh
Section II, 11:20 a.m. - 1:10 p.m., TWTh

Problem Solving Sessions: 10 hours per week
MTWThF 9:00-10:00 a.m., 11:20 am-12:20 pm, OLRI 250 and OLRI Study Area

Tuition: \$3,095.00 for Physics 221

Physics 222: Introductory Physics II

Electric field and potential, electric current, magnetic field, electromagnetic induction, electromagnetic waves, physical and geometrical optics, and modern physics (atomic structure, quantum theory, relativity, and Big Bang cosmology).

Prerequisites: Physics 221 or equivalent.

Academic credit: **Four semester hours.**

Date: June 25 (M) – July 20 (F), 2018

Lecture: 10:10 - 11:10 a.m., MTWThF

Laboratory: Section I, 8:10 - 10:00 a.m., TWTh
Section II, 11:20 a.m. - 1:10 p.m., TWTh

Problem Solving Sessions: 10 hours per week
MTWThF 9:00-10:00 a.m., 11:20 am-12:20 pm, OLRI 250 and OLRI Study Area

Tuition: \$3,095.00 for Physics 222