

Institute for Science and Mathematics

Physics 2023-24

Instructor: Dr. M.E. Donaldson

Syllabus

Fall 2023

1. Algebra review
2. Algebra applied
 - Mechanics
 - 1-D Motion
 - Forces and Energy
 - Statics
 - Kinematics
 - 2-D Motion
 - Newton's First Law
 - Newton's Second Law
 - Newton's Third Law
 - Momentum
 - Periodic motion

Spring 2024

1. More Algebra applied!
 - Periodic Motion
 - Vibrations and Waves
 - Sound
 - Light/Optics
 - Reflection, refraction, and diffraction
 - Light Quanta
 - Light Emission
 - Electric forces and fields
 - Electrical energy and current
 - Electrical circuits
 - Magnetism
 - Fluid dynamics
 - Thermodynamics

Grading:

Homework.....50%

- Typed lecture notes
- Worksheets, problem sets and study questions
- Lab write-ups

Participation.....10%

- Class discussions
- Lab exercises

Tests40%

High School Physics, CK-12 Foundation. Available for download at:

www.scimathinstitute.org/texts/physics.pdf

Textbook (optional) Holt Physics by Holt Rinehart & Winston, Jerry S. Fauhgn, Harcourt College Publishers

Cost \$395/semester