PHYS 1501L - Fundamentals of Physics Laboratory 1

Fall 2026 Syllabus, Section 11, CRN 42295,

Credit hours: 1

Instructor

Katherine Durrell

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Public Instructor Information

Instructor Title: Part-Time Faculty in Physics and Astronomy
Instructor Professional Qualifications: MSc., Astronomy, University of Toronto (1994), BSc.(with Honors), Physics, University of New Brunswick (1993), YSU Teaching Excellence Award (2018)
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Course Description

1501L. Fundamentals of Physics Laboratory 1. Experimental work designed to supplement the PHYS 1501, PHYS 1502 sequence. Three hours per week. Prereq. or concurrent: PHYS 1501. 1 s.h.

Course Readings

Group	Title	Author	ISBN
Required	The Physics Lab Manual I: Experiments to Accompany Physics 1501L/2610L at Youngstown State University	W. Cochran revised by J. Clymer	978-1-64565-704-0

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	8/24	Syllabus	Introduction to Physics Lab	
Mon	8/31	Introductory Material in the Lab Manual Experiment 1	Measurement Precision, Error, Uncertainty Calculations	Due 8/31 at 4:59pm: Experiment 1 Worksheet Part I Room 2010 Experiment 1 Worksheet Part II Room 2010 Experiment 1 Worksheet Part III Room 2010 Experiment 1 Worksheet: Part IV Room 2010 Experiment 1 Worksheet: Part VI Room 2010 Experiment 1 Worksheet: Part V Room 2010 Experiment 1 Worksheet Part VII Room 2010
Mon	9/7		LABOR DAY: NO CLASS	
Mon	9/14	Experiment 2	Free-Fall and the Acceleration Due to Gravity	Due 9/14 at 2pm: Experiment 2 Prelab

Mon	9/21	Experiment 3	Empirical Relations: Free-Fall	Due 9/21 at 2pm: Experiment 3 PreLab Experiment 2 Worksheet
Mon	9/28	Experiment 4	Kinematics in Two Dimensions: Projectiles	Due 9/28 at 2pm: Experiment 4 Prelab Experiment 3 Individual Lab Report
Mon	10/5	Experiment 5	Vector Forces and Static Equilibrium	Due 10/5 at 2pm: Experiment 5 Prelab 1501 new Experiment 4 Worksheet
Mon	10/12	Experiment 6	Statics, Dynamics and the Force of Friction	Due 10/12 at 2pm: Experiment 6 Prelab Due 10/12 at 11:59pm: Experiment 5 Worksheet
Mon	10/19	Experiment 7	Rotation and Newton's Second Law: Uniform Circular Motion	Due 10/19 at 2pm: Experiment 7 PreLab Experiment 6 Worksheet
Mon	10/26	Experiment 8	Inelastic Collisions and Momentum Conservation: The Ballistic Pendulum	Due 10/26 at 2pm: Experiment 8 Prelab Experiment 7 Individual Lab Report
Mon	11/2	Experiment 9	Energy Conservation in Rotation	Due 11/2 at 2pm: Experiment 9 Prelab Experiment 8 Worksheet
Mon	11/9	Experiment 10	Simple Harmonic Motion: The Oscillating Mass-Spring System	Due 11/9 at 2pm: Experiment 10 Prelab Experiment 9 Worksheet
Mon	11/16	Experiment 11	Wave Motion: Standing Waves and the Stretched String	Due 11/16 at 2pm: Experiment 11 Prelab Experiment 10 Individual Lab Report
Mon	11/23	Experiment 12	Wave Motion: Standing Waves and the Speed of Sound	Due 11/23 at 2pm: Experiment 12 Prelab Experiment 11 Worksheet
Mon	11/30		Make-up Labs	Due 11/30 at 2pm: Experiment 12 Worksheet
Mon	12/7		FINALS WEEK: NO LAB	

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.