

PHYS 1501L - Fundamentals of Physics Laboratory 1

Summer 2026 Syllabus, Section 03, CRN 30067,

Credit hours: 1

Instructor

Snjezana Balaz

Professional Qualifications:

Ph.D. Chemical and Materials Engineering, University of Nebraska-Lincoln, Lincoln, NE (2007);

M.S. Physics, University of Nebraska-Lincoln, Lincoln, NE (2005);

B.S. Physics, Northland College, Ashland, WI (2001)

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Communication Expectations:

In person , or by email. I expect polite emails.

How to Refer to me:

Dr. Balaz or Dr. Snow

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 1: Experiments to Accompany Physics 1501L/2610L at Youngstown State University	W. Cochran	

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	Proposed Topic	Due/To Prepare for Class
Tue	5/12	Measurement Precision, Error, Uncertainty Calculations	Due 5/12 at 10:59pm: Experiment 1 Worksheet: Part I Experiment 1 Worksheet: Part II Experiment 1 Worksheet: Part III Experiment 1 Worksheet: Part IV Experiment 1 Worksheet: Part V Experiment 1 Worksheet: Part VI Experiment 1: Part VII
Thu	5/14	Free Fall and the Acceleration Due to Gravity	Due 5/14 at 10:59pm: Experiment 2 Report

Tue	5/19	Empirical Relations: Free Fall	Due 5/19 at 10:59pm: Experiment 3: Graphing with logs Experiment 3 Report
Thu	5/21	Kinematics in Two Dimensions: Projectiles	Due 5/21 at 10:59pm: Experiment 4 Report
Tue	5/26	Vectors: Forces and Static Equilibrium	Due 5/26 at 10:59pm: Experiment 5 Report
Thu	5/28	Statics, Dynamics, and the Force of Friction	Due 5/28 at 10:59pm: Experiment 6 Report Teamwork Self & Peer Evaluation
Tue	6/2	Rotation and Newton's Second Law: Uniform Circular Motion	Due 6/2 at 10:59pm: Physics 1 Experiment 7 Worksheet: More Graphing with logs Experiment 7 Report
Thu	6/4	Inelastic Collisions and Momentum Conservation: The Ballistic Pendulum	Due 6/8 at 7am: Error and Uncertainty Quiz Due 6/4 at 10:59pm: Experiment 8 Report
Tue	6/9	Energy Conservation in Rotation	Due 6/9 at 10:59pm: Experiment 9 Report
Thu	6/11	Simple Harmonic Motion: The Oscillating Mass-Spring System	Due 6/11 at 10:59pm: Experiment 10 Report
Tue	6/16	Wave Motion: Standing Waves and the Stretched String	Due 6/16 at 10:59am: Experiment 11 Report
Thu	6/18	Wave Motion: Standing Waves and the Speed of Sound and Beats	Due 6/18 at 10:59pm: Experiment 12 Report Due 6/19 at 10:59pm: Teamwork Self & Peer Evaluation

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.