Mayville State University

PHYS 212L: College Physics II Lab – On-campus Laboratory Course

Spring 2025
1 Credit Hour

Course and Instructor Information

Instructor: Dr. Thomas Gonnella - please address me as "Dr. Gonnella"

Contact Information: Office Phone and Location: (701) 788-4807 – Science Building 124
Email:tom.gonnella@mayvillestate.edu

Hours of Availability: Anytime outside of my posted class times. ← Preferred method of contact

Instruction Mode: Face-to-face

Meeting Times and Location: Tuesdays 2:00-3:50 PM in Science Building 130

Zoom Link: To be established if it becomes necessary.

Required Course Materials and Technologies

Required: This lab course requires a printed lab manual from the MSU bookstore. You will also need a computer that meets the MSU technology requirements with the Capstone software package installed on it and access to a scientific calculator.

Recommended: None

Course Description

This course consists of two hours of laboratory per week and the lab experiments will be applicable to lecture. The Physics 212L lab is designed to help the students grasp the fundamentals of physics from a hands-on approach enhanced with technology. The lab content encompasses topics involving heat, thermodynamics, simple harmonic motion, waves, sound, electricity, magnetism, light, optics, and an introduction to modern physics.

Pre-/Co-requisites: Students are expected to have a fundamental understanding of Microsoft Excel prior to enrolling in this course. Students should be co-enrolled in PHYS 212 or have already completed it. Students are expected to have successfully completed College Physics I Lab (PHYS 211L), College Algebra (Math 103) and Trigonometry (MATH 105) prior to enrolling in this course. If these topics were challenging for you, then you should utilize a tutor outside of this class as needed. Students should be co-enrolled in PHYS 212.

Course Objectives

To successfully complete this course, the learner will be expected to meet the following objectives, as aligned to Composite Science Education Program Approval Standards through North Dakota's Education Standards and Practices Board (ND ESPB):

This course is designed to provide students with a skill set appropriate to working in a physics/science lab.

Standards Alignment (Composite Science Education Program Approval Standards-ND ESPB):

- 13047.1 Composite Science Major/General Science The composite/general science program requires that environmental science be incorporated within other courses or as a separate course. The composite/general science program requires:1. Coursework in biology, chemistry, physics, and earth

science, including: a. Minimum of twenty four semester hours in one area, b. Minimum of twelve semester hours in two other areas, c. Minimum of four semester hours in the fourth area, d. Courses must be from those that the institution allows toward graduation in the science major. 2. Study of mathematics through the pre-calculus level (college algebra and above) and statistics

Course Expectations

Instructor/Student Communication: My preferred method of contact is e-mail and, although it is typically sooner, you should expect a response to your e-mails within 48 hours. Despite my e-mail responses will typically go whichever account you initially sent the e-mail from, you are still accountable for all academic communications sent to your Mayville State University e-mail address.

Blackboard Announcements: Course updates and reminders are typically posted as announcements in Blackboard. You are expected to have the notification of announcements turned on in your Blackboard account. If you are not receiving announcements in a timely manner, please contact Robert Davis, the MSU Blackboard Administrator, at robert.davis.4@mayvillestate.edu to get this issue resolved.

Tardiness: Students that show up late for lab are responsible for all course material missed during their partial absence. If a student arrives late for lab they will have only the remaining time allotted of the quiz to complete the quiz - make-up quizzes will not be provided. If a student is late to a lab period, the instructor reserves the right to deduct up to 100% of the student's submitted work for the lab performed during that lab period.

Absence: Students are responsible for all course material missed during their absence. If it is necessary for a student to miss a lab for an instructor-approved excused absence (team or club leaving town), arrangements for a make-up lab should to be made prior to the missed lab. All make-up labs will need to be conducted with the assistance of a lab partner that attended the missed lab.

Absence Accommodation: Students are allowed to drop one lab. If you are present for all the labs then your lowest scoring lab will automatically be dropped.

Lab Work: Lab work is typically due before the beginning of the following lab period. Questions regarding the labs will be answered up to 24 hours prior to the beginning of the next lab. The lab work submitted to the instructor will be evaluated based on data compiled, the data analysis performed, and the quality of the answers provided.

Late Work: If the deadline for submitting work has passed, you will lose 5% of the total points possible for each 12-hour period that has passed for up to six calendar days. Any assignment submitted later than six days late will be graded out of 40%.

Evaluation and Grading

Grading Policy: It is my responsibility to post your scores on corrected lab materials within one week of the lab period and it is your responsibility to continuously monitor your academic performance throughout the term in the Blackboard.

Grading Scale: A > 90% B > 80% C > 70% D > 60%

Breakdown of Grades: Grades in this course are determine by the performance on the lab experiments submitted.

Labs Reports and other submitted work	80%
Quizzes	10%
Lab Final Exam (05/06 @ 2:00 pm)	10%

Academic Dishonesty: Academic dishonesty in this lab course will not be tolerated. Academic dishonesty in this course may consist of fabrication of data, allowing someone else to copy your work, and submitting someone else's work as your own.

Enrollment Verification

The U.S. Department of Education requires instructors of courses to provide an activity which will validate student enrollment in this course. The only way to verify that a student has been in this course is if he or she takes an action in Blackboard, such as completing an assignment or a taking a quiz. Logging into Blackboard is NOT considered attendance. For this course students need to simply show up to class the first week. If this activity is not completed, your enrollment in this course will be at risk.

Late Arrivals

If you are adding this course late, make sure to check the Announcements section in the Blackboard course shell for all of the announcements that you may have missed prior to your admission into the Blackboard course shell. Your deadlines in this course will remain the same as the deadlines for students that were enrolled on or before the first day of class.

Proctor Notification

There is no need for a proctor in this lab course.

Important Student Information

In the Announcements section of the Blackboard Institution Page, you can view and download the Important Student Information document for the current academic year. It includes information about:

- ✓ Land Acknowledgement Statement
- ✓ Academic Grievance Concerns and Instructor English Proficiency
- ✓ NetTutor - Online Tutoring Program
- ✓ Starfish - Student Success System
- ✓ Students with Documented Disabilities
- ✓ Student Learning Outcomes / Essential Learning Outcomes
- ✓ Academic Honesty
- ✓ Emergency Notification
- ✓ Continuity of Academic Instruction for a Pandemic or Emergency
- ✓ Family Educational Rights and Privacy Act of 1974 (FERPA)
- ✓ Diversity Statement (Title IX)

Syllabus Appendix: Other Required Syllabus Items

INTASC Standards: In the section below the term "teacher" pertains to the student taking this course that is on-course to become a student teacher.

#	INTASC Standards

1	The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he/she teaches.
6	The teacher uses knowledge of effective verbal and nonverbal communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.

Mayville State University

Course Schedule for College Physics II Lab – On-campus

Exp	Experiment Topic(s)	Exp Date
1	Calorimetry - Part 1	01/14
2	Calorimetry - Part II	01/21
4	Heat Engine Thermal Efficiency	01/28
-	Exam 1	02/03
3	Calculation of Blackbody Emission Spectra	02/04
5	Simple Harmonic Motion *	02/11
6	Standing Waves on a String	02/18
7	Sound Waves in Air *	02/25
-	Exam 2	03/03
9	DC Electronics: Lights in Circuits and Ohm's Law	03/18
8	Electric Fields	03/04
-	Spring Break week	03/11
10	DC Electronics: Currents in Circuits	03/25
11	DC Electronics: Kirchhoff's Rules *	04/01
-	Exam 3	04/07
12	DC Electronics: RC Circuits *	04/08
13	DC Power Supply	04/15
14	Optics	04/22
15	Single-Slit and Double Slit Light Diffraction *	04/29
-	Exam 4	05/05
-	Lab Final	05/06

Important Dates

Thursday, January 23rd, is the last day to withdraw without record - 100% refund.

Friday, April 11th, is the last day to withdraw with record.